VZ Light Commercial Owner’s Handbook

VZ LIGHT COMMERCIAL

GM Holden Ltd, ABN 84 006 893 232 (hereinafter Holden)

Change of name, address or ownership
In the event of a Safety Recall, or for various reasons, Holden may need to contact you as the owner of this vehicle. Also, if less than three years old, this vehicle will qualify for Roadside Assistance, refer to Chapter 9.

If you have recently changed your address, or name, or purchased this vehicle second-hand, please help us to help you by taking a few minutes to fill in and mail the form on the third page of this handbook.

For information about GM Holden's privacy policy or to update owner details online, please visit Holden's website at www.holden.com.au

Note: Please refer to the inside front cover of the service booklet for the Vehicle Identification Certificate.

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ABN 84 006 893 232

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✻ The asterisk signifies equipment options not in all vehicles (model variants, engine options, optional equipment and Genuine Holden Parts and Accessories).

We thank you for choosing Holden and want to assure you of our continuing interest in your driving pleasure and satisfaction.

This handbook applies to the current VZ series models. Therefore, due to different models and options, you may find reference in this Handbook to some equipment not fitted to your own vehicle.

Please note that all information, illustrations and specifications in this Handbook are based on the latest production information available at the time of printing. Holden reserves the right to make changes at any time without notice and without incurring any obligation.

Reference is made throughout this Handbook to different engines:

- V6 engine (labelled ' ALLOYTEC V6').
- V8 engine (labelled '6.0 GEN IV V8').

If unsure of which engine is fitted to your vehicle, please lift the bonnet and check the identification on the top of the engine.

CHANGE OF ADDRESS OR OWNERSHIP

Please fill in the form below if you have changed your name, address, bought the vehicle second-hand, or have become the new driver.

Holden requires these details in order to contact the operator in the event of a safety recall and to keep the initial 3 year Roadside Assistance details up to date (refer to Chapter 9). For information about Holden's privacy policy or to update owner details online, please visit Holden's website at *www.holden.com.au.*

Please mail to the address on the back of this page.

If Holden Assist is fitted, please also press the Assist button on the rear view mirror to advise of change of address / ownership.

Please tick the appropriate box:

☐ Original Owner ☐ Subsequent Owner

Title: (Mr, Mrs, Miss, Ms, etc.)

First name in full or initials

Surname or Name of Company / Institution / Government Department

Address

Street / box

City / Town

State

Postcode

1st contact phone no

2nd contact phone no

Email address

Vehicle registration number

ISOVIN Number (refer to Chapter 8)

Place in an envelope and mail to:

The Manager – Warranty Administration
Service Department
GM Holden Ltd
Box 548D, G.P.O.
Melbourne
Victoria, 3001

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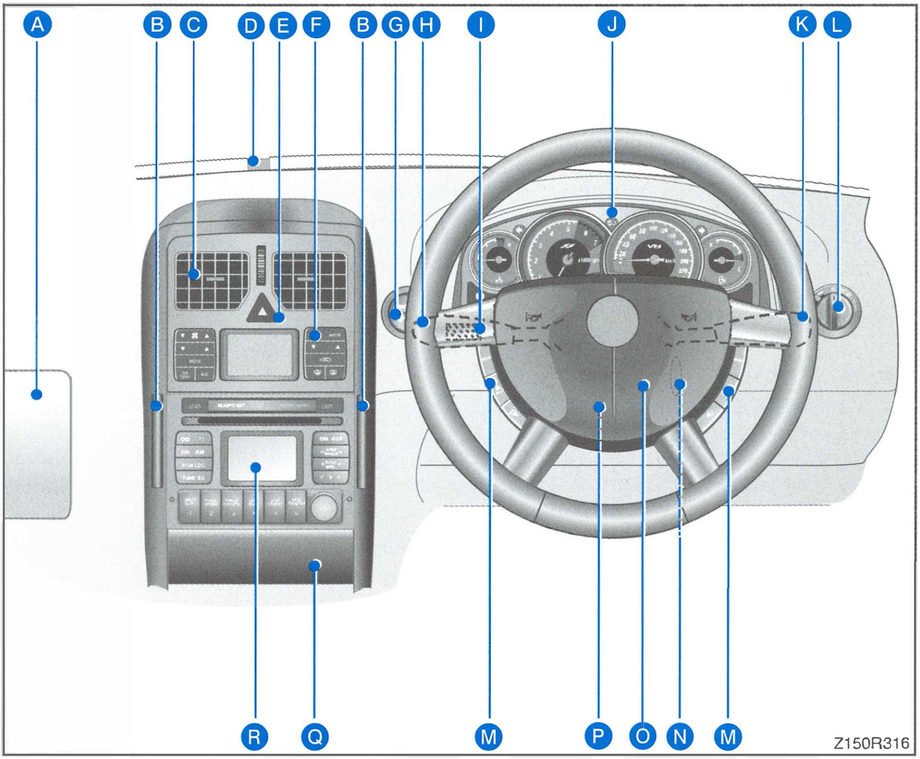
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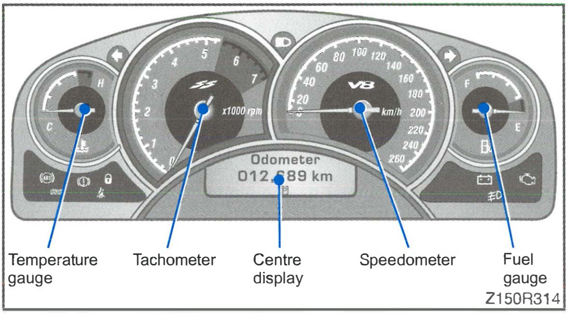
GAUGES



Speedometer

The speedometer shows vehicle speed in kilometres per hour (km/h).

Tachometer

The tachometer shows engine speed in thousands of revolutions per minute (rpm).

Fuel gauge

The fuel gauge shows the level of fuel in the fuel tank when the ignition is switched on; E = empty, F = full.

Note: Small additions of fuel (less than 15 litres) can take up to 10 minutes to register on the fuel gauge; larger amounts show almost immediately. This is so fuel movement, when cornering, will not register on the gauge. Refer to Chapter 5, Fuel.

Temperature gauge

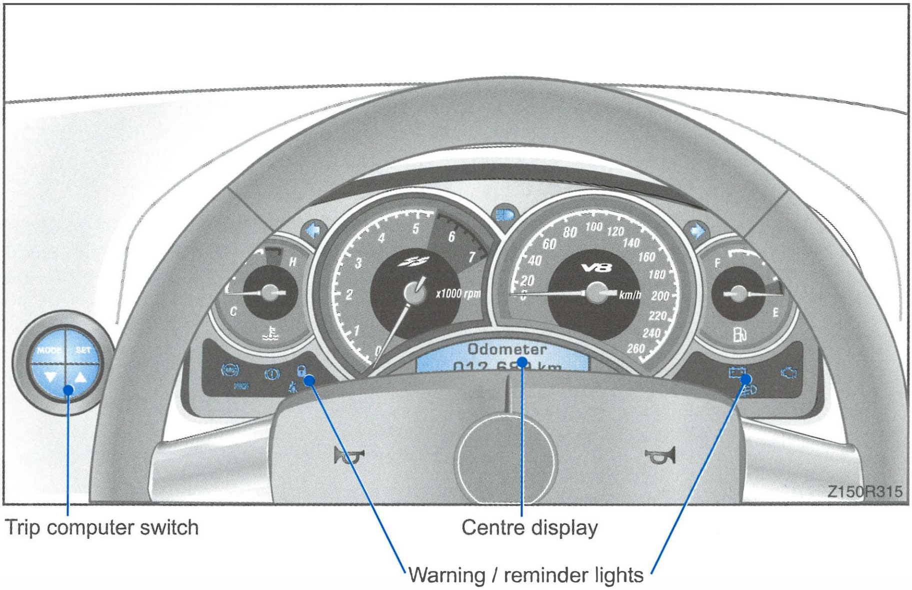
The temperature gauge indicates the engine coolant temperature when the ignition is switched on. Stop-start driving in heavy traffic, driving at high speed in warm weather, hill climbing or towing may cause the needle to move toward the 'H'. This is normal, and is not cause for concern. However, if the needle moves all the way to 'H' and remains there for more than 30 seconds, stop the vehicle as soon as it is safe to do so. Refer to 'Engine Overheating' in Chapter 6.

Centre display

The instrument panel centre display provides visual information to the driver for a number of vehicle functions, such as: trip computer, radio, warnings and reminders. Depending on luxury level, the vehicle could be fitted with a single-window display or a triple-window display. The various functions and their associated displays are explained further on in this chapter and in the following chapters.

Note: Adjust the illumination of the gauges by moving the tab on the side of the headlights dial. Refer to 'Lights' further on in this chapter.

WARNING / REMINDER INDICATIONS

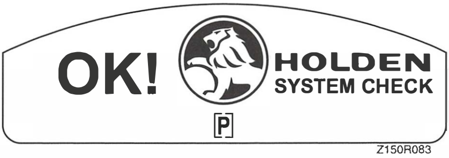


Warning / reminder indications are provided on the instrument panel as illuminated icons, animated symbols or a combination of both. The illuminated icons appear along the bottom of the instrument panel, below the temperature and fuel gauges. The animated symbols appear on the instrument panel centre display.

Most warning / reminder indications are accompanied by a chime.

Control of the instrument panel display is provided through the trip computer switch. The switch is located to the right of the instrument panel. The trip computer switch has four buttons: MODE, SET, ▼ and ▲.

Display – Ignition on

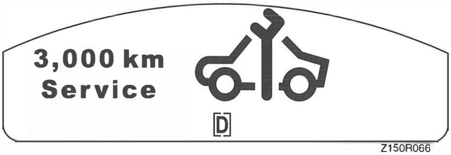


System Check: When the ignition is turned on, a vehicle system check is performed and the status is shown on the display. If there are no warnings or service reminders, the display shows a series of welcome screens displaying the Holden logo and finishing with the 'HOLDEN SYSTEM CHECK OK!' screen.

Note:

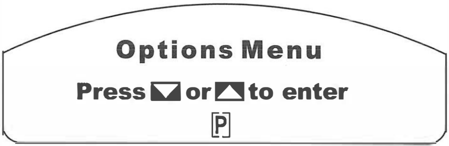
- Invoke the Options menu by pressing the MODE button while turning the ignition on. The system check continues to run in the background.
- Pressing the MODE button any time during the system check causes the display to jump ahead to the last trip computer screen displayed before the ignition key was last switched off. The system check continues to run in the background.
- The transmission selector position indication is only displayed if the vehicle is fitted with automatic transmission.

WARNING / REMINDER INDICATIONS cont.

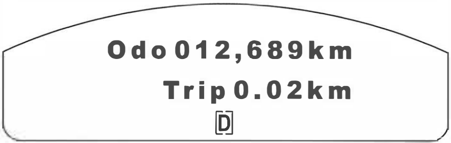


If a service reminder is active, it displays for 10 seconds or until the MODE button is pressed. Refer to the service booklet in the glovebox for details on service displays. Once the service reminder screen has timed-out or the MODE button has been pressed, the display advances to the system check and welcome screens.

If the system check detects a problem, it displays the appropriate warning immediately. If a warning is displayed, press the MODE button to acknowledge it (once for each warning). The display jumps ahead to the last trip computer screen displayed before the ignition key was last switched off.



Options menu: After the 'System Check' is completed, the Options menu displays for 3 seconds if the vehicle speed is under 10 km/h and no active warnings exist. Refer to 'Options Menu' further on in this chapter.



Trip Display: If the MODE button is pressed or the screen times-out (3 seconds), the Options menu disappears and the trip computer displays the same functions as when the ignition was last turned off.

Note: To display the Odometer screen, if not already displayed, tap the MODE button until the screen displays.

Display – Ignition off

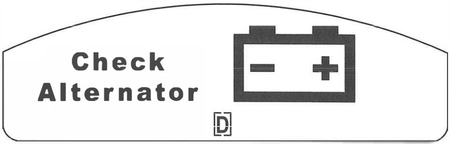
When the ignition is turned off, the Odometer displays on the screen unless a service reminder is active. Active service reminders display for 10 seconds before the Odometer displays.

WARNINGS AND REMINDERS

The following warning and reminder indications may appear on your instrument panel centre display (depending on the luxury level of your vehicle).

Alternator

To check that the alternator warning light is working, the 🔋 icon is illuminated for a short time when the ignition is turned on.



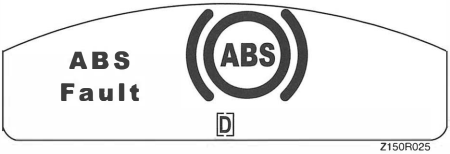
If the 🔋 warning light and 'Check Alternator' animation illuminate while driving, it indicates that the alternator is not charging properly. Contact your Holden Dealer.

The 'Check Alternator' animation displays until the MODE button on the trip computer switch is pressed, whereas the 🔋 warning light remains illuminated until the problem is rectified.

WARNING / REMINDER INDICATIONS cont.

ABS fault / off

To check that the Anti-lock Brake System (ABS) warning light is working, the (ABS) icon displays for a short time when the ignition is turned on.

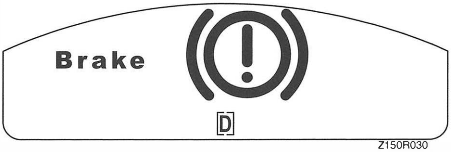


If the (ABS) warning light and 'ABS Fault' animation illuminate when driving, a malfunction of the ABS is indicated. Contact your Holden Dealer. The vehicle's brake system will still operate conventionally with the anti-lock operation disabled. Refer to Chapter 4.

The 'ABS Fault' animation displays until the MODE button on the trip computer switch is pressed, whereas the (ABS) warning light remains illuminated until the problem is rectified.

Brake fail and park brake warning

To check that the brake fail / park brake warning light is working, the (!) icon displays when the ignition is first turned on and the park brake is applied.

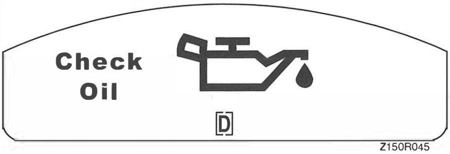


If the (!) warning light and 'Brake' animation illuminate while driving and the park brake is released, a fault with the brakes is indicated. Stop the vehicle immediately on the side of the road as carefully as possible. Do not proceed until satisfied that braking is possible or that the cause of the problem has been fixed.

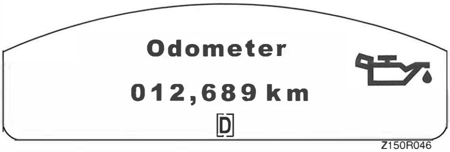
A warning chime sounds if you attempt to drive off without releasing the park brake fully.

The 'Brake' animation displays until the MODE button on the trip computer switch is pressed, whereas the (!) warning light remains illuminated until the problem is rectified.

Low oil pressure



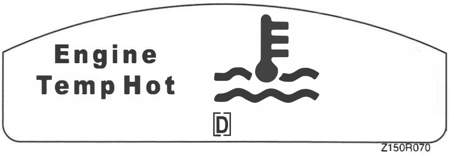
If the 'Check Oil' animation illuminates when driving, it indicates that the oil pressure is low or the oil level is low and engine damage may result if you continue driving. Stop immediately, turn off the engine and check the engine oil level. Refer to Chapter 7. Do not run the engine when this warning is illuminated. If the oil level is normal, have the system checked at the nearest Holden Dealer.



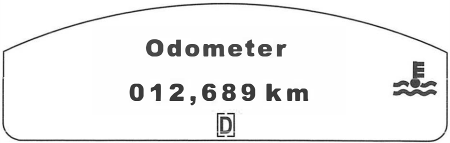
The 'Check Oil' animation displays until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small 🛢 icon on the right. The 🛢 icon remains illuminated until the problem is rectified.

WARNING / REMINDER INDICATIONS cont.

Over temperature



If the 'Engine Temp Hot' animation illuminates while driving, it indicates that the engine coolant temperature is excessively hot. It is advisable to stop the vehicle as soon as it is safe to do so. However, in the event of being in an isolated area, the vehicle can be driven at a speed of up to 80 km/h for a period of one hour. Refer to chapter 6, Engine overheating, for further details on this function.

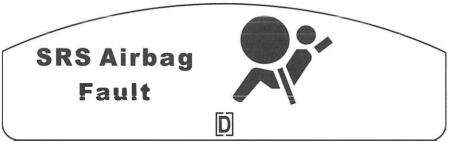


The 'Engine Temp Hot' animation displays until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small over temperature icon on the right. The icon remains illuminated until the problem is rectified.

Refer to Chapter 6, Engine overheating.

Airbag and seat belt pretensioners

To check that the warning light is working, the SRS icon displays for a short time when the ignition is first turned on.



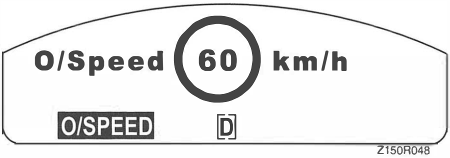
If the SRS warning light and 'SRS Airbag Fault' animation illuminates while driving, it indicates that the airbag system or seat belt pretensioner system may not function correctly, especially in an accident. Contact your Holden Dealer immediately.

The SRS warning light illuminates after an accident where the pretensioners, or pretensioners and airbag(s), have activated.

The 'SRS Airbag Fault' animation displays until the MODE button on the trip computer switch is pressed, whereas the SRS warning light remains illuminated until the problem is rectified.

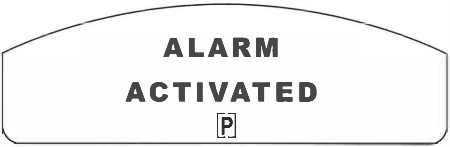
Refer to Chapter 6 for airbags or Chapter 3 for seat belt pretensioners.

Overspeed



Overspeed is designed to warn the driver when he or she has exceeded the preselected speed. For information on the overspeed displays, refer to 'Trip Computer' further on in this chapter.

Alarm

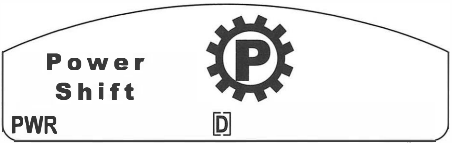


The alarm is triggered when any of the doors, bonnet or boot are opened or the vehicle's electrical system has been tampered with. Refer to Chapter 2 for information on the alarm displays.

WARNING / REMINDER INDICATIONS cont.

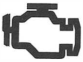
Power shift

The automatic transmission 'Power Shift' animation and PWR icon illuminate when the transmission is operating in the power mode. Refer to Chapter 4 for information on the automatic transmission operation and displays.



Z150R052

MIL - Malfunction indicator light



This vehicle is fitted with an emission monitoring system. The light illuminates when the ignition is switched on and extinguishes shortly after the engine starts to run.

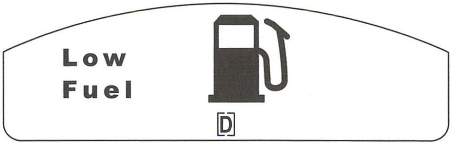
If the light illuminates when driving, the emission system may require servicing. Although the vehicle may still be drivable and not require towing, consult the nearest Holden dealer as soon as possible. However, if the light flashes while driving, reduce speed until the light stops flashing and take the vehicle to a Holden dealer as soon as possible.

WARNING / REMINDER INDICATIONS cont.

Low fuel

If the 'Low Fuel' animation illuminates when driving, it indicates that the fuel level is low.

The 'Low Fuel' animation displays until the MODE button on the trip computer switch is pressed. The trip computer then displays its calculation of kilometres to empty for 10 seconds before reverting to the original trip computer display with a small low fuel ⛽ icon on the right. The ⛽ icon remains illuminated until the fuel tank is filled above the low fuel level.



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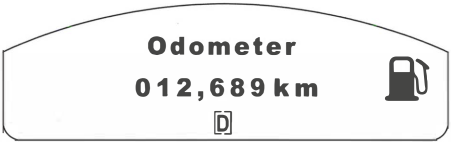
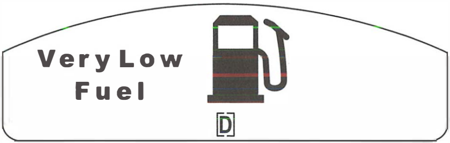


Z150R043

Very low fuel

If the 'Very Low Fuel' animation illuminates when driving, it indicates that the fuel level is very low.

The 'Very Low Fuel' animation displays until the MODE button on the trip computer switch is pressed. The trip computer then displays its calculation of kilometres to empty for 10 seconds before reverting to the original trip computer display with a small flashing low fuel ⛽ icon on the right. The ⛽ icon remains illuminated until the fuel tank is filled above the very low fuel level.



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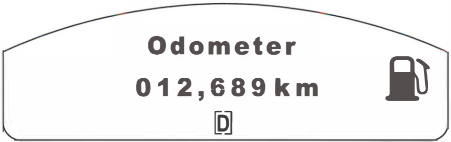
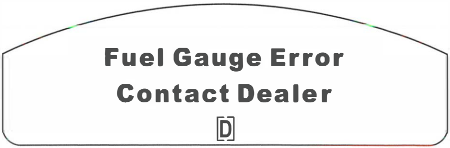


Z150R043

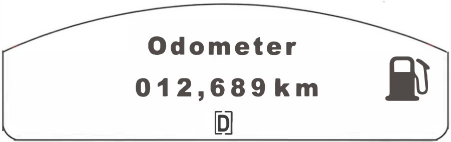
Fuel gauge error

If the 'Fuel Gauge Error Contact Dealer' animation illuminates while driving, a fault in the fuel level measurement system is indicated. Contact your Holden Dealer as soon as possible.

The 'Fuel Gauge Error' animation displays until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small ⛽ icon on the right. The ⛽ icon remains illuminated until the problem is rectified.



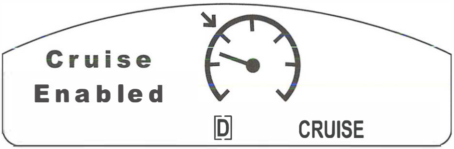
Z150R020



Z150R043

Cruise control ✽

The 'Cruise Enabled' animated symbol and CRUISE icon illuminate when the cruise control is activated and ready for use. Refer to 'Cruise Control' further on in this chapter.

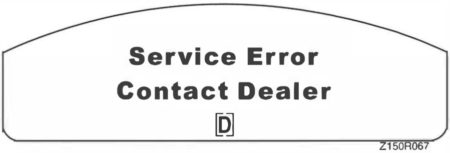


Z150R022

WARNING / REMINDER INDICATIONS cont.

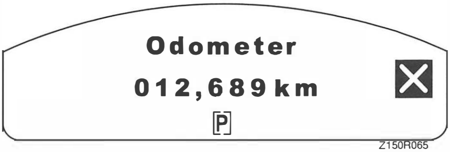
Service error

If the 'Service Error Contact Dealer' animation illuminates while driving, a fault in the instrument panel is indicated. Contact your Holden Dealer as soon as possible.



Z150R067

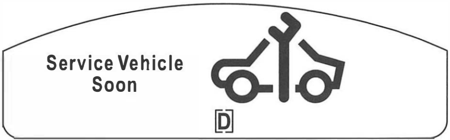
The 'Service Error' animation displays until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small X icon on the right. The X icon remains illuminated until the problem is rectified.



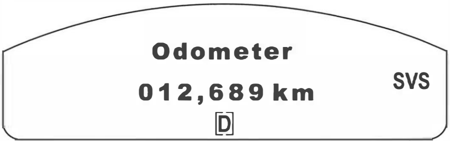
Z150R065

Service vehicle soon

If the 'Service Vehicle Soon' animation illuminates when driving, it indicates a non-emissions related fault in the electronic engine management system or the automatic transmission. Although the vehicle may still be driveable, it is recommended that you reduce your driving speed and do not tow heavy loads or heavily load the vehicle. Have the problem fixed as soon as possible. Your Holden Dealer has the correct diagnostic computer equipment and training to find and fix the problem.



Z150R008

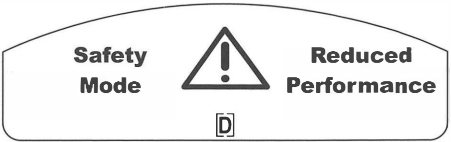


Z150R280

The 'Service Vehicle Soon' animation displays until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small SVS icon on the right. The SVS icon remains illuminated until the problem is rectified.

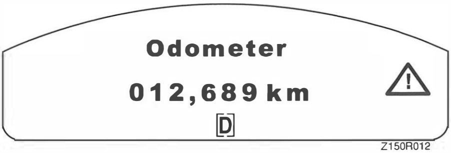
Safety mode

If the 'Safety Mode' animation illuminates when driving, it indicates a fault in the electronic throttle control system. Although the vehicle may still be driveable, the throttle available may be limited, resulting in reduced power. Have the problem fixed as soon as possible. Your Holden Dealer has the correct diagnostic computer equipment and training to find and fix the problem.



Z150R009

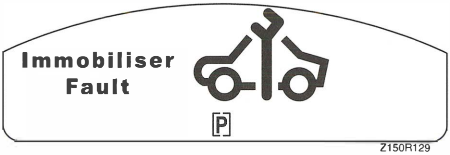
The 'Safety Mode' animation displays until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small safety mode icon on the right. The icon remains illuminated until the problem is rectified.



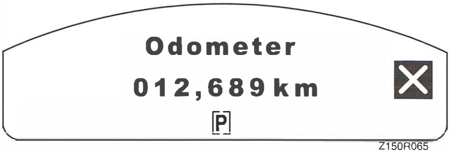
Z150R012

WARNING / REMINDER INDICATIONS cont.

Immobiliser fault



If the 'Immobiliser Fault' animation illuminates while attempting to start the vehicle, a fault in the vehicle's immobiliser module is indicated. The vehicle will not start with an immobiliser fault. Contact your Holden Dealer to have the fault rectified.



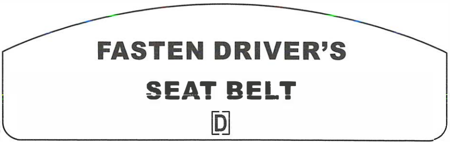
The 'Immobiliser Fault' animation displays until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small X icon on the right. The X icon remains illuminated until the problem is rectified.

Seat belt warning light

The seat belt warning light is designed to remind vehicle occupants to fasten their seat belts. To check that the seat belt warning light is working, the warning light displays for a short period of time when the ignition is first switched on.

Additional seat belt warning ✻

If the drivers seat belt is not fastened within a certain period of time, the warning light flashes.



The 'FASTEN DRIVER'S SEAT BELT' warning message displays and a chime sounds if the driver's seat belt is still not fastened when the vehicle speed reaches or exceeds 25 km/h.

Note: The warning message reverts to the original trip computer display when the vehicle speed drops below 25 km/h, whereas the warning light stops flashing once the drivers seat belt is fastened securely. If the driver's seat belt is unfastened while the ignition is on, the warning light and chime sequence will start over.

Fog lights ✻

The icon illuminates when the fog lights are working. Refer further on in this chapter for information on the operation of the fog lights.

High beam

The icon illuminates when the headlight high beams are in use.

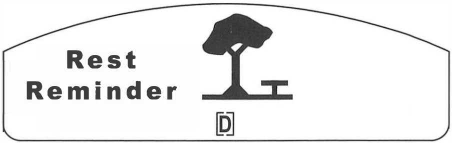
Turn signals

The appropriate arrow flashes when the lever on the right side of the steering column is moved up or down with the ignition turned on.

- Both arrows flash when the hazard warning flasher is switched on. Refer further on in this chapter for information on the hazard warning flasher.
- The indicators flash at a quicker rate if a globe has blown.

WARNING / REMINDER INDICATIONS cont.

Rest reminder



Z150R063

This feature reminds the driver that he or she may have been travelling for too long without a break. The rest reminder appears only after all warning displays, system check displays and Options menu selections have been completed.

When the ignition is switched on, a timer starts counting. After 2 hours of continuous driving:

- If the vehicle has a triple-window trip computer, the trip computer automatically switches over to the trip time on the side window and the centre window displays the Rest icon.
- If the vehicle has a single-window trip computer, only the centre window displays the Rest icon.

The 'Rest Reminder' wording remains stationary but the icon flashes to alert the driver of the rest reminder.

When the MODE button on the trip computer switch is pressed the display reverts back to the previously displayed trip computer screen.

The large icon reappears after a further 20 minutes, accompanied by a chime, unless the ignition has been turned off.

Security

The 🔒 warning light flashes (approximately once every second) when the vehicle immobiliser and security system is activated. The flash rate is slower (approximately once every 2 seconds) if there is a fault with the vehicle's immobiliser system.

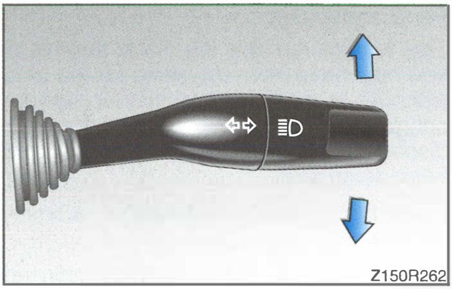
TURN SIGNALS, HORN, TILT / REACH STEERING

Turn signals

The turn signals lever is on the right side of the steering column. To signal a turn, push the lever in the same direction you turn the steering wheel.

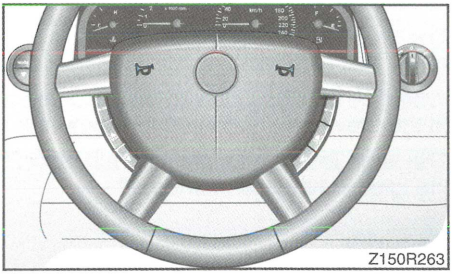
In some turns (such as changing lanes) the steering wheel is not turned far enough to cancel the turn signal. So, to indicate a lane change, move the lever part way and hold. The lever returns to the neutral position when you release it.

A green arrow on the instrument panel flashes when the lights are in operation.



Horn

The horn is activated by pressing the horn symbol 📯, on either side of the steering wheel centre pad.



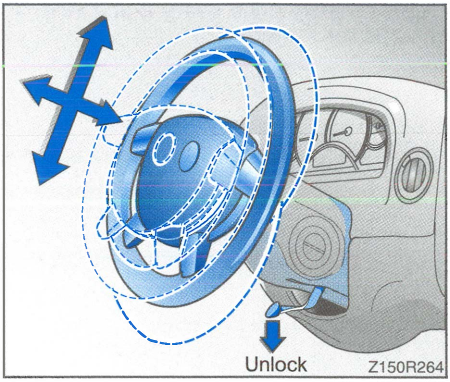
Tilt / reach steering

Move the lock lever under the steering column downwards.

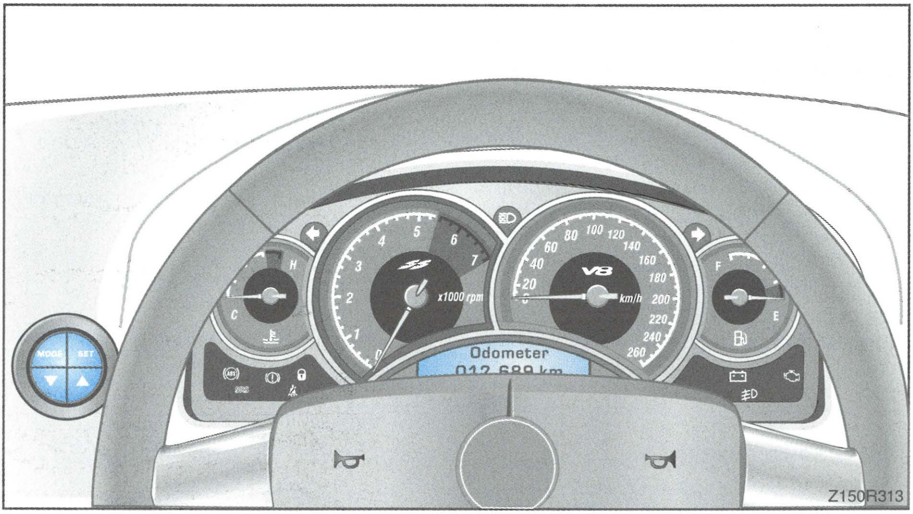
Grasp the steering wheel and move it as required. It can be moved up or down, pulled towards you or pushed away from you.

When the steering wheel is in the preferred position, move the lock lever up. Jiggle the steering wheel to ensure it has locked securely before driving.

WARNING:
As with all the other driver position controls, do not attempt to adjust the steering wheel while driving.



TRIP COMPUTER



Z150R313

The buttons for the trip computer are located to the left of the gauges. The single-window for the trip computer is located directly beneath the gauges. Tap the MODE button to scroll between the different sets of displays.

When the ignition is turned on, the trip computer displays the same functions as when the ignition was last turned off.

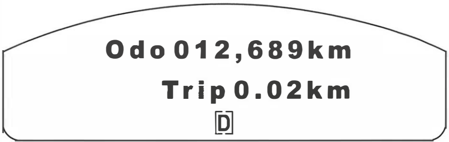
The trip computer can be reset when the Average speed / fuel or Odometer / tripmeter are displayed. To reset, press the SET button for less than 2 seconds. Resetting does not affect the Odometer, Overspeed, Distance to empty, Time to go, Distance to go or Remaining fuel values. Tap the MODE button to scroll between the different displays.

Note:

- You can customise the trip computer to suit your requirements. Customisable functions and features are marked with a blue asterisk (*). Customising details, as well as additional operating notes, are shown further on in this chapter. Refer to 'Options Menu'.
- If the wrong buttons are accidentally pressed, causing the display to show a anything other than normal, turn the ignition off then on again (only when the vehicle is stationary).

Odometer / tripmeter

The Odometer records kilometres travelled since the vehicle was built. The tripmeter shows the kilometres travelled from the start of a particular trip. Reset the tripmeter reading to zero by pressing the SET button for less than 2 seconds when this window displays.



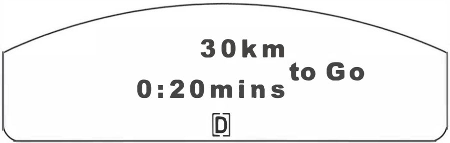
Z150R044

TRIP COMPUTER cont.

TAP MODE BUTTON

Distance / time to go*

At the start of a trip, estimate the distance to arrival (from maps or road signs for example). Tap the ▼ or ▲ button until the display shows the estimated trip distance. When you drive off, the trip computer constantly updates the time to arrival, based on changing driving speeds. Use the ▼ or ▲ buttons to adjust the kilometres at any time that this display is shown. Time to go is shown in hours and minutes and is only shown if the distance to go is more than zero.

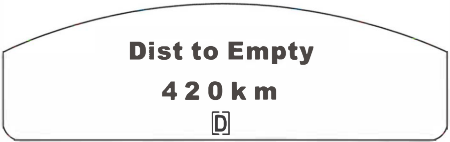


Z150R130

TAP MODE BUTTON

Distance to empty

Distance to empty is an estimate of how far the vehicle can travel on the current amount of fuel. It is based on the previous fuel usage and is frequently updated. Therefore, as conditions become suited to more economical driving the distance to empty may actually increase. For example from city to highway driving. In addition, movement of fuel in the tank can cause the reading to fluctuate when the fuel level is low.



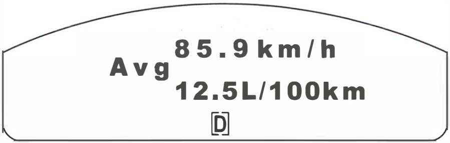
Z150R036

TAP MODE BUTTON

Average speed / fuel

The Average speed / fuel screen shows the average speed while the engine is running and the average fuel consumed since the trip computer was last reset.

Reset the reading to zero by pressing the SET button for less than 2 seconds when this window is shown. After resetting, a high fuel consumption figure may appear initially, due to the short distance travelled and the large amount of fuel used when accelerating.



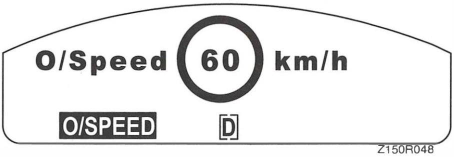
Z150R029

TRIP COMPUTER cont.

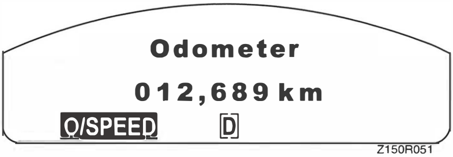
TAP MODE BUTTON

Overspeed

The overspeed sets the speed you do not want to exceed. For example, if driving in a 60 km/h zone, set overspeed to 60, by tapping the ▼ or ▲ button. When vehicle speed exceeds 60 km/h, the overspeed animated warning message displays in the instrument panel centre display and an audible chime warns you that the vehicle has exceeded the preset speed. At that time, the trip computer automatically shows the overspeed display, allowing you to make adjustments if required.

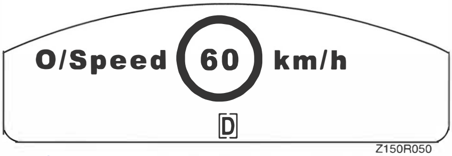


If the overspeed is maintained for longer than 10 seconds but is less than 15 km/h over the set overspeed value, the overspeed reverts to the original trip computer display with a small O/SPEED icon on the left.



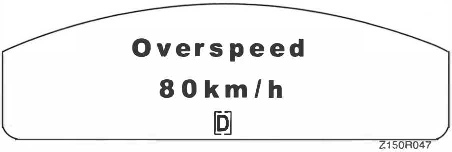
If the overspeed is maintained for longer than 10 seconds and is more than 15 km/h over the set overspeed value, the overspeed warning reverts to a flashing O/SPEED icon.

Overspeed is adjustable in 5 km/h units and works at speeds between 20 km/h and 200 km/h. Tap the ▼ or ▲ button as required or hold a button to scroll quickly to a speed. Briefly press the SET button to set the overspeed to the speed at which the vehicle is currently travelling.



Overspeed adjust – vehicle moving

Press and hold the SET button for at least 2 seconds (when this display is showing) to turn the overspeed warning on or off.

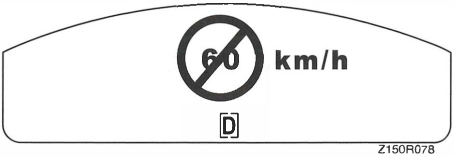


Overspeed adjust – vehicle stationary

Overspeed presets can also be chosen. Refer to Overspeed presets on the next page.

Underspeed chime*

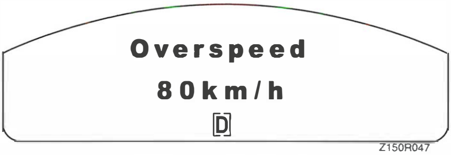
Overspeed provides a chime when the travelling speed exceeds the overspeed chosen value, whereas underspeed provides a chime to indicate when the travelling speed again drops below the overspeed.



TRIP COMPUTER cont.

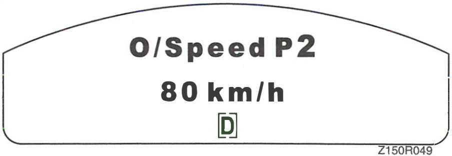
Overspeed presets

Instead of adjusting the overspeed up and down in 5 km increments (see previous page), you can set four commonly used speeds, for example 60, 80, 100 and 110 km/h.



Normal Overspeed

Hold MODE button for 2 seconds



Overspeed preset

Hold down the MODE button for 2 seconds when the overspeed display is shown. The display changes from normal overspeed to overspeed preset.

P1 is the first preset number, with a default setting of 60 km/h.

Tap the ▲ button to see the second preset, P2, which has a default setting of 80 km/h, P3 has a default setting of 100 km/h and P4 of 110 km/h. Tap the ▼ or ▲ button to move between the preset numbers.

The overspeed preset display now replaces the normal overspeed display in the set of displays. Tap the MODE button to scroll through the other displays.

To change the display back to normal overspeed, hold down the MODE button for 2 seconds while the overspeed preset display is shown.

Altering overspeed presets

Note: To change the overspeed presets, the vehicle must be stationary.

The default settings of 60, 80, 100 and 110 km/h can be changed for your individual preference.

To alter, ensure that the preset you wish to change is showing, for example P2 80 km/h. Then, briefly press the SET button. The display starts to flash. Use the ▼ or ▲ button to adjust the setting. When correct, briefly press the SET button. Each preset can be changed in this way.

The presets are automatically arranged in ascending order.

One or more presets can be assigned to 'Off' by reducing the preset down to '0'. When driving, you will then only have three or less presets to choose from. To turn back on, select the 'Off' preset (when the vehicle is stationary) and use the ▲ button to increase the number.

If the ▼ and ▲ buttons are briefly pressed while driving, the overspeed setting is changed to the speed at which you are travelling (in multiples of 5 km/h).

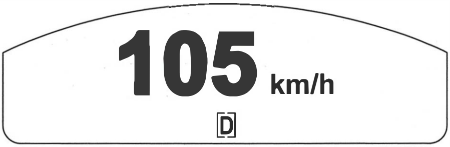
If the SET button is pressed for 2 seconds, either while driving or stationary, overspeed is turned completely off or on.

TRIP COMPUTER cont.

TAP MODE BUTTON

Digital speedometer*

When the digital speedometer is enabled from the Options menu, the vehicle's speed is also displayed numerically on the instrument cluster's centre display.

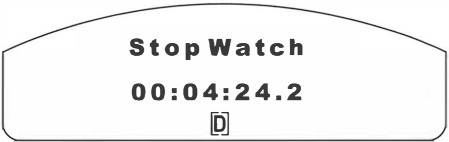


Z150R143

TAP MODE BUTTON

Stop watch*

The Stop watch function records elapsed time. For example, it can be used to measure the time taken to travel between two points on a trip. To start or stop the stop watch, press the SET button. To reset the stop watch, press and hold the MODE button for more than 3 seconds; a confirmation beep sounds.



Z150R069

Service due

A service reminder message is built into the trip computer.

The reminder message first appears 1000 km before the service is due, giving you time to arrange for the service to be carried out. The message is shown on the trip computer for 10 seconds whenever the vehicle's ignition is switched on or off, until the trip computer is reset. When the service is overdue, the message flashes for 10 seconds when the ignition is turned on or off. Refer to the service booklet in the glovebox for further information on servicing.

Note: This message is calculated only by distance. Remember that if you are driving infrequently, special servicing may be required. Refer to the service booklet in the glovebox.

The Service due message is reset when your Holden Dealer services the vehicle.

Trip computer notes:

- If the wrong buttons are accidentally pressed causing the window to show anything other than normal, turn the ignition off then on again when the vehicle is stationary.
- Several warning lights are linked to the instrument panel display windows. Refer to 'Warning / Reminder Indications' previously in this chapter.
- When the Overspeed warning symbol is first shown, the overspeed trip computer display is automatically shown for 10 seconds. This indicates your preselected speed and allows you to adjust it if required. After 10 seconds, the trip computer returns to its previous display.
- Some displays change the units of measurement over time. For example, the Time to go shows hours only above 99 hours and 59 minutes, and hours and minutes below. Time to go also shows 10 minute units above 2 hours, 5 minute units below 2 hours and 1 minute units below 10 minutes.
- If the **X** symbol or a 'Service Error' message displays, it indicates a fault in the trip computer / instrument panel. Contact your Holden Dealer.

OPTIONS MENU

The Options menu allows you to customise some of the vehicle features using the trip computer switch and display.

Note: Only features that are fitted to the vehicle are displayed.

Entering options menu

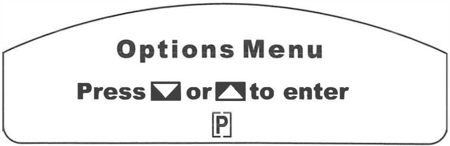
The Options menu can be displayed when the vehicle is stationary or moving slowly. To access the Options menu:

- When the vehicle is stationary, hold down the MODE button while turning the ignition from off to on.
- When the vehicle has been started, the system check completed and the vehicle speed is less than 10 km/h, the Options menu displays for 3 seconds.

Note:

- If the vehicle speed exceeds 10 km/h, the Options menu disappears and the display reverts back to the previous trip computer function.
- The Options menu is not accessible if an alarm warning has been activated or a warning symbol on the instrument panel has been triggered.

With the Options menu message displayed, use the trip computer ▼ or ▲ button to enter the menu.



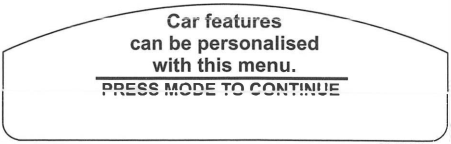
Options Menu

Press ▼ or ▲ to enter

P

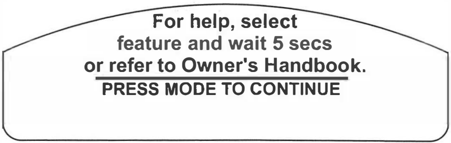
Z150R123

Help screens: In the Options menu there are help screens to assist the driver to understand the features. If a menu item is selected and the screen is left for more than 5 seconds, a help screen pops up to inform the driver how to operate the selected feature.



Car features
can be personalised
with this menu.
PRESS MODE TO CONTINUE

Z150R124



For help, select
feature and wait 5 secs
or refer to Owner's Handbook.
PRESS MODE TO CONTINUE

Z150R107

Navigating the menu

- To scroll through the different customisable features, press the MODE button.
- To change the setting, use the ▼ and ▲ buttons.
- To continue, press the MODE button.
- To exit the Options menu perform one of the following:
  - Press the MODE button to scroll through to the exit screen.
  - Drive the vehicle at more than 10 km/h.
  - Switch the ignition off (only if stationary).

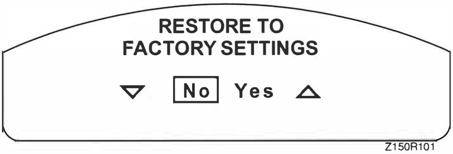
OPTIONS MENU cont.

Options

Once in the Options menu, the driver can step through the following series of options:

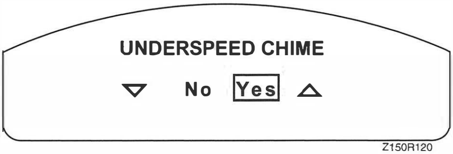
RESTORE TO FACTORY SETTINGS

This option restores the instrument panel, entertainment system and other general vehicle systems to the factory default settings. Use the ▼ or ▲ button to select 'Yes' or 'No'. Press the MODE button to continue. If 'Yes' is selected, the next feature displays after a 2 second delay. This delay allows time for the default parameters to be set.



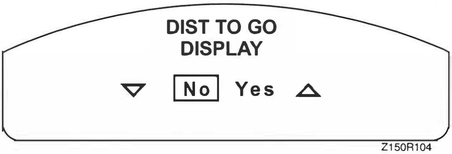
UNDERSPEED CHIME

This option is used to enable / disable the underspeed chime. Overspeed provides a chime when your travelling speed exceeds the overspeed chosen value, whereas underspeed provides an additional chime to indicate when your travelling speed again drops below the overspeed. Use the ▼ or ▲ button to select 'Yes' or 'No'. If 'Yes' is selected, the underspeed chime is activated (Default = No). Press the MODE button to continue.



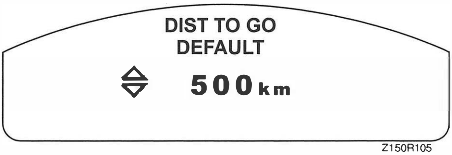
DIST TO GO DISPLAY

This option is used to enable or disable the Distance to go and Time to go display. This display is explained previously in this chapter. Use the ▼ or ▲ button to select 'Yes' or 'No'. If 'Yes' is selected, the Distance / Time to go is activated (Default = No). Press the MODE button to continue.



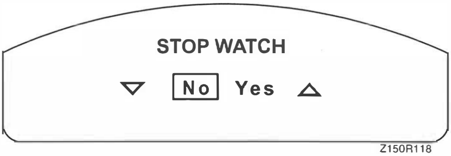
DIST TO GO DEFAULT

The Distance to go can be reset (when not in the Options menu) by pressing the SET button for less than 2 seconds. The distance resets to 500 km, which is the default setting. When in the Options menu, the default setting can be altered up or down with the ▼ or ▲ buttons. When correct, press the MODE button to continue.



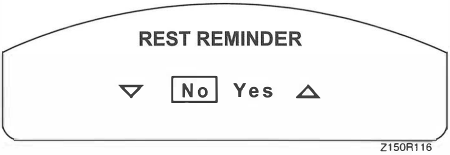
OPTIONS MENU cont.

STOP WATCH



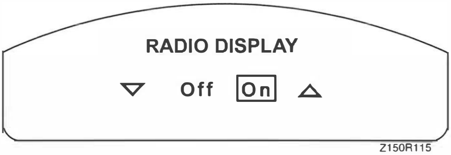
This option is used to enable or disable the stop watch display. This display is explained previously in this chapter. Use the ▼ or ▲ button to select 'Yes' or 'No'. If 'Yes' is selected, the stop watch display is activated (Default = No). Press the MODE button to continue.

REST REMINDER DISPLAY



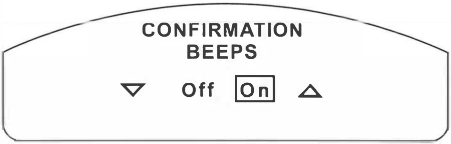
This option is used to enable or disable the rest reminder display on the instrument panel. This display is explained previously in this chapter. Use the ▼ or ▲ button to select 'Yes' or 'No'. If 'On' is selected, the rest reminder display is activated (Default = No). Press the MODE button to continue.

RADIO DISPLAY

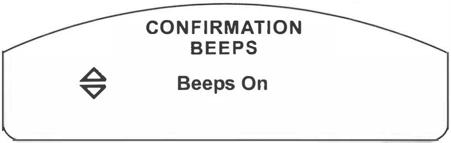


This option is used to enable or disable the entertainment system display on the instrument panel. Detailed information on the operation of the radio and CD is provided in the Audio System Handbook located in the glovebox. Use the ▼ or ▲ button to select 'On' or 'Off'. If 'On' is selected, the Radio display is activated (Default = On). Press the MODE button to continue.

CONFIRMATION BEEPS



with Single CD system



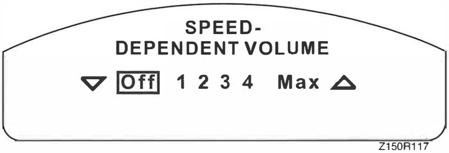
with Six-CD changer system

This option is used to enable or disable the audio system confirmation beeps function. This function is explained further in the Audio System Handbook located in the glovebox. The audio system option level fitted to your vehicle determines the menu choices available. Use the ▼ or ▲ button to select 'On' or 'Off' (single CD system), 'Beeps On', 'CD Load & Eject Only' or 'Beeps Off' (CD changer system). If 'On' is selected, the audio system confirmation beeps function is activated (Default = On). Press the MODE button to continue.

OPTIONS MENU cont.

SPEED-DEPENDENT VOLUME

This option is used to enable or disable the audio system speed-dependent volume function. This function is explained further in the Audio System Handbook located in the glovebox. Use the ▼ or ▲ button to adjust the setting to 'Off', '1', '2', '3', '4' or 'Max' (Default = 2). Press the MODE button to continue.



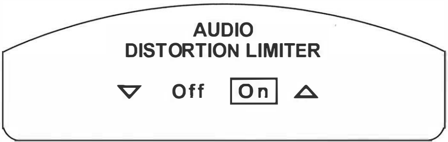
SPEED-DEPENDENT VOLUME

▽ Off 1 2 3 4 Max △

Z150R117

AUDIO DISTORTION LIMITER

This option is used to enable or disable the audio system distortion limiting function. This function is explained further in the Audio System Handbook located in the glovebox. Use the ▼ or ▲ button to select 'On' or 'Off'. If 'On' is selected, the audio distortion limiting function is activated (Default = On). Press the MODE button to continue.



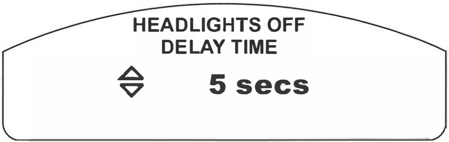
AUDIO DISTORTION LIMITER

▽ Off On △

Z150R094

HEADLIGHTS OFF DELAY TIME

This option is used to adjust the headlights off time delay. This function is explained further on in this chapter. Use the ▼ or ▲ button to adjust the delay setting between 0 and 180 seconds (Default = 1 second). Press the MODE button to continue.



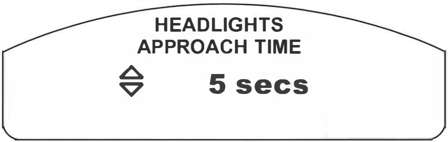
HEADLIGHTS OFF DELAY TIME

5 secs

Z150R111

HEADLIGHTS APPROACH TIME

This option is used to adjust the headlights approach illumination time delay. This function is explained further on in this chapter. Use the ▼ or ▲ button to adjust the delay setting between 0 and 90 seconds (Default = 30 seconds). Press the MODE button to continue.



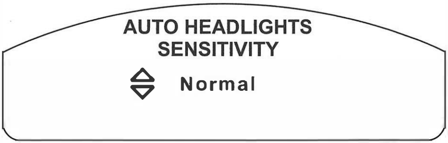
HEADLIGHTS APPROACH TIME

5 secs

Z150R110

AUTO HEADLIGHTS SENSITIVITY

This option is used to adjust the automatic headlights on sensitivity. This function is explained further on in this chapter. Use the ▼ or ▲ button to adjust the sensitivity setting to 'Early', 'Normal' or 'Late' (Default = Normal). Press the MODE button to continue.



AUTO HEADLIGHTS SENSITIVITY

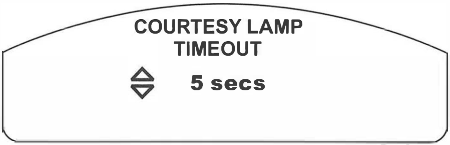
Normal

Z150R112

OPTIONS MENU cont.

COURTESY LAMP TIMEOUT

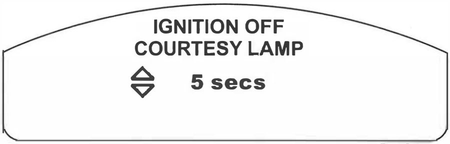
This option is used to adjust the length of time that the interior courtesy lamp remains illuminated after opening a door or unlocking the vehicle (at night only). Use the ▼ or ▲ button to adjust the time setting between 0 and 255 seconds (Default = 30 seconds). Press the MODE button to continue.



Z150R109

IGNITION OFF COURTESY LAMP

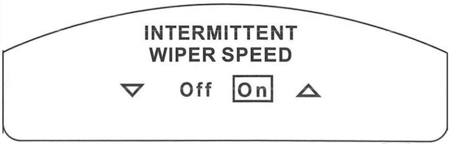
This option is used to adjust the length of time that the interior courtesy lamp remains illuminated after the ignition is turned off (at night only). Use the ▼ or ▲ button to adjust the time setting between 0 and 255 seconds (Default = 30 seconds). Press the MODE button to continue.



Z150R108

INTERMITTENT WIPER SPEED✽

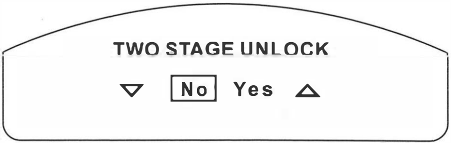
This option is used to enable or disable the road speed sensitive intermittent wiper function. Refer to 'Front wipers and washers' further on in this chapter. Use the ▼ or ▲ button to select 'On' or 'Off'. If 'On' is selected, the road speed sensitive intermittent wiper function is activated (Default = On). Press the MODE button to continue.



Z150R122

TWO STAGE UNLOCK

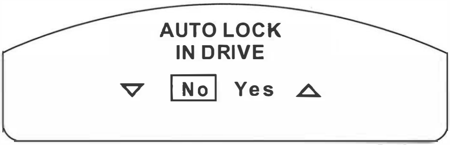
This option is used to enable or disable the two stage door unlock function. This function is explained in detail in Chapter 2. Use the ▼ or ▲ button to select 'Yes' or 'No'. If 'Yes' is selected, the Two Stage Unlock function is activated (Default = Yes). Press the MODE button to continue.



Z150R121

AUTO LOCK IN DRIVE (automatic transmission only)

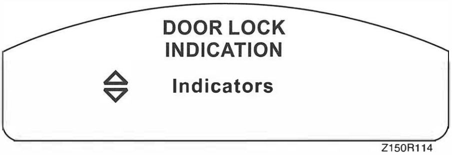
This option is used to enable or disable the automatic door locking when in Drive function. This function is explained in detail in Chapter 2. Use the ▼ or ▲ button to select 'Yes' or 'No'. If 'Yes' is selected, the Auto Lock In Drive function is activated (Default = No). Press the MODE button to continue.



Z150R113

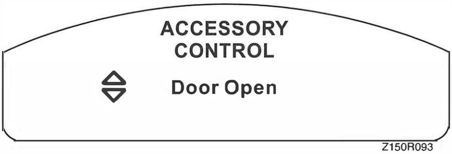
OPTIONS MENU cont.

DOOR LOCK INDICATION


DOOR LOCK
INDICATION
Indicators
Z150R114

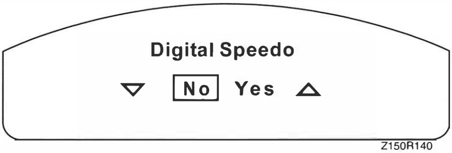
This option is used to select the type of indication provided to the driver upon locking and unlocking the vehicle's doors. This function is explained in detail in Chapter 2. Use the ▼ or ▲ button to select 'Indicators' or 'Indicators & Horn' (Default = Indicators). Press the MODE button to continue.

ACCESSORY CONTROL


ACCESSORY
CONTROL
Door Open
Z150R093

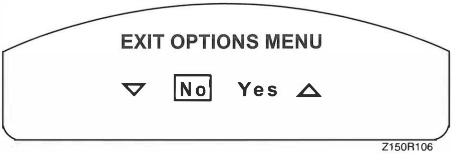
This option is used to enable or disable the accessories timeout function. This function is explained in detail in Chapter 3. Use the ▼ or ▲ button to select 'Off' or 'Door Open' (Default = Door Open). Press the MODE button to continue.

DIGITAL SPEEDO DISPLAY


Digital Speedo
No
Yes
Z150R140

This option is used to enable or disable the digital speedometer display on the instrument panel. This display is explained previously in this chapter. Use the ▼ or ▲ button to select 'Yes' or 'No'. If 'On' is selected, the digital speedometer display is activated (Default = Yes). Press the MODE button to continue.

EXIT OPTIONS MENU


EXIT OPTIONS MENU
No
Yes
Z150R106

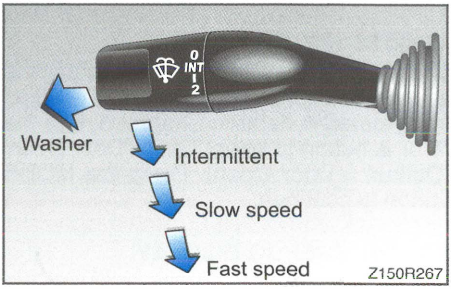
This option is used to either exit the Options menu or to return to the start of the Options menu. Use the ▼ or ▲ button to select 'Yes' or 'No'. If 'Yes' is selected, the trip computer exits calibration mode and returns to the previous trip computer display. If 'No' is selected, the menu returns to the start of the Options menu, 'RESTORE TO FACTORY SETTINGS' display.

WIPERS AND WASHERS

The lever on the left of the steering column controls the wipers and washers, which operate when the ignition is turned to the On or Accessories positions.

Wipers and washers

Never operate the wipers on dry glass, as this will damage the rubber and scratch the glass. To spray water onto the windscreen, pull the lever towards you and hold as long as required. This automatically turns on the wipers for a short time, if not already operating.



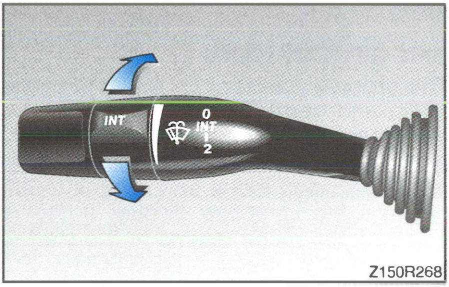
Push the lever down to turn on the wipers. Hold the lever just off from the first stop for the wipers to sweep intermittently (once every few seconds). The wipers sweep intermittently for as long as the lever is held.

Pushing the lever to the first stop switches the wipers to the intermittent position and allows you to release the lever.

Pushing the lever to the second stop turns the wipers to slow speed. Pushing the lever further again to the third stop, turns the wipers to the fast speed.

In addition, on vehicles not fitted with variable intermittent wipers, the intermittent wipe speed can be set to be road speed dependent. This means that as the vehicle speed increases, so does the wiper speed. To enable or disable this function, refer to 'Options Menu' previously in this chapter.

Variable intermittent ✻



The frequency of intermittent wipe can be varied by moving the middle section of the lever, marked 'INT'. Rotate the section up for a more frequent wipe, or down for a less frequent wipe.

In addition, the intermittent wipe speed is road speed dependent, which means that as the vehicle speeds up, so do the wipers.

Refer to Chapter 7 when topping up the washer fluid.

LIGHTS

OFF

All lights off.

Dimmer – instrument lighting

The instruments are automatically illuminated when the park lights are switched on.

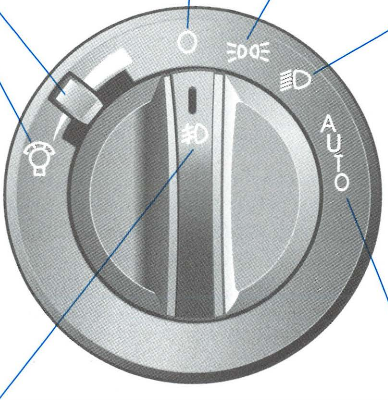
Adjust anywhere between dim and bright by holding the tab in the bright or dim position until the desired level is reached.

Park lights

Turns on the park, tail, rear licence plate and instrument panel lights.

Headlights

Turns on the headlights (in addition to all the park lights).



Z150R155

Fog lights ✻

When the light switch is turned to park lights or headlights, pull the switch outwards to turn the fog lights on and push the switch inwards to turn the fog lights off. The fog light graphics on the switch illuminate with park lights and on / off indication is displayed on the instrument panel.

Auto

Headlights and park lights automatically switch off and on, as required. High / low beam selection must still be manually controlled.

The light sensor is centrally mounted on the top of the dashboard. Be careful not to cover up the sensor, as this may affect operation. Occasionally wipe the sensor clean.

LIGHTS cont.

Automatic headlights

When the headlight switch is in the AUTO position, the headlights and park lights automatically switch off and on with the ignition switch or through the approach lighting feature. Refer to 'Headlights on when approaching the vehicle' below. High and low beam selection must still be manually controlled.

Automatic headlight sensitivity

The headlights can be set to come on automatically at different light levels. The headlight sensitivity can be adjusted to Early, Normal or Late. Refer to 'Options Menu' previously in this chapter.

WARNING:

The automatic headlight sensor cannot replace the driver's personal judgement of the prevailing light conditions. For example, the sensor is unable to detect foggy conditions. In situations such as this, switch on the headlights manually, otherwise your safety and that of other road users could be endangered.

Automatic headlights off

Leaving the headlights or park lights on when the engine is not running will eventually flatten the battery. To prevent this, the headlights and park lights switch off when the ignition is switched from on to off and the driver's door is opened; the vehicle senses that the driver has forgotten to switch off the lights. The lights stay off until the ignition is switched on, or the lights are turned on manually via the headlight switch.

The headlights can be set to automatically switch off after you have locked the vehicle and walked away, which is useful for illuminating a path for example. To set or adjust the time delay from when the driver's door is opened to when the lights automatically switch off. Refer to 'Options Menu' previously in this chapter.

If you wish to have the lights on when leaving the vehicle, wait until they have been automatically switched off, then turn the headlight switch first to off, then to park lights or headlights.

Headlights on when approaching the vehicle

This feature is designed to provide additional security when returning to the vehicle at night. When the unlock button on the ignition key is used, the vehicle's exterior lights will illuminate for a predefined time or until the vehicle is locked.

However, the lights only turn on to the position that the headlight switch is in when the vehicle is left. That is, if the switch is in Auto or Headlights, the headlights will illuminate, if the switch is in the park light position, the park lights will illuminate and if the switch is off, no lights will illuminate.

Refer to 'Options Menu' previously in this chapter, to set or adjust the time the headlights stay on after the unlock button has been pressed.

LIGHTS cont.

Headlights and dimming instruments note

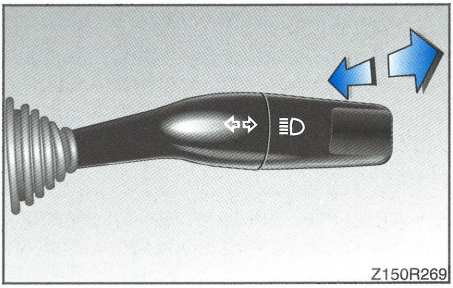
When the headlights are switched on, the instruments are automatically illuminated. Once the instruments are illuminated, the driver has the ability to adjust the brightness (see previous page). Some illuminated areas of the vehicle have been linked to the brightness control (for example, the trip computer, headlight switch and radio). This means that the interior lighting ambience can be adjusted to your preference. When the headlights are turned off then on, the brightness level reverts to the last adjusted setting.

Fog lights ✻

Fog lights are designed to provide a different illumination of the road to the usual headlight beam. Depending on the density of the fog, a different combination of lights will improve vision. For instance, in very heavy fog, vision may be improved by turning the headlights off, and just having the park lights and fog lights on. When fog lights are turned on, a ‡D symbol illuminates on the instrument panel.

Note: Driving speed should be reduced in fog. It is recommended that you check your state's laws regarding use of fog lights when driving.

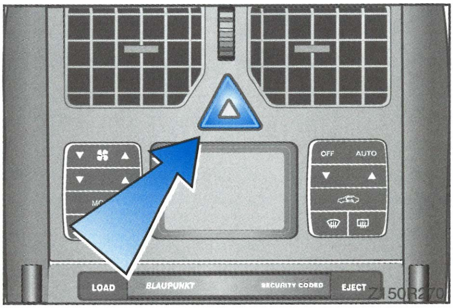
High / low beam



High and low beam is controlled by the lever on the right side of the steering wheel column. With the headlights on, push the lever away from you until you feel a click, then release it. The headlights change from low to high beam. When high beam is selected, a blue ≣D symbol on the instrument panel displays.

It is also possible to flash the high beam lights for signalling purposes (even if the headlights and / or ignition are switched off). Pull the lever towards you; the lights remain on high beam as long as the lever is held.

Hazard warning flasher

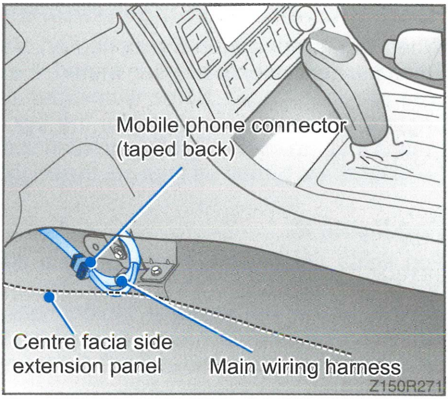


Press the button (illustrated) to turn the hazard warning flasher on and off. The hazard warning flasher works regardless of the ignition position. When the hazard warning flasher is turned on, all turn signals flash continuously.

Use the hazard warning flasher to warn other drivers any time your vehicle becomes a traffic hazard, day or night. Use of the hazard warning flashers while the vehicle is moving is illegal in some states and countries.

PHONE

Mobile phone connection



A mobile telephone connection is provided for the integration of a mobile cell phone to the vehicle's audio system. A six-pin connector is taped under the centre console, on the passenger's side, as illustrated. Refer to Audio System Handbook in the vehicle's glovebox for further details.

If a mobile phone hands-free kit (with suitable features such as a mute line and wiring for separate speaker) has been connected to it, the sound of the radio / CD is muted when the phone rings and the voice of the caller is heard through the vehicle's speakers. When the call ends the radio returns to the previous mode.

During a call, 'VOICE IN' is shown on the display. If the radio system is off, it turns on for the telephone call if the vehicle's accessories or ignition is already switched on.

If a call is in progress when the accessories is turned off, the radio remains turned on in Telephone mode until the phone call is completed.

Volume, Bass, Treble, Fader and Balance can all be adjusted in the Telephone mode without affecting these settings in other modes (such as Radio or CD).

Note:

- When this feature is used for the first time, the volume may need to be adjusted on the phone as well as the radio. This should be done while a call is in progress. First, adjust the phone's volume to a medium level using the volume control on the phone itself, then adjust the radio's volume to a comfortable listening level. The radio's volume may now be adjusted as required to compensate for variations in the mobile phone signal quality or changes in the background noise within the vehicle, for example, if the window is wound down.
- If the call sounds unusually distorted, the volume setting on the phone itself may need to be adjusted until the sound quality is improved.

Contact your Holden Dealer, authorised Blaupunkt agent or mobile phone installer for further information.

RADIO / CD AND CLOCK

Radio, CD and clock

Detailed information on the operation of the radio and CD is provided by the Audio System Handbook in the glovebox.

Operating information for adjusting time, adjusting the antenna height, Personal Identification Number (PIN) and remote control of the radio via the steering wheel is provided on these pages.

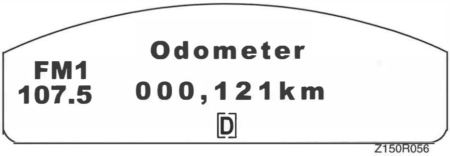
Radio / CD display

If the 'Radio Display' is turned on in Options menu (refer previously in this chapter), then the audio system information is also shown on the instrument panel centre display.

Note:

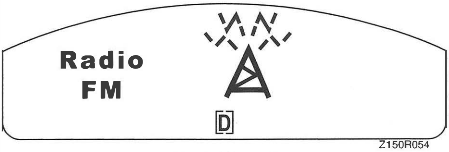
- The audio system information is only shown if the radio / CD is the original factory fitted item.
- If a warning message is active, the radio / CD information is not displayed, as the warning messages have priority.

If the radio / CD is on when the ignition is turned on, the display shows the trip computer information with the radio / CD information on the left side.

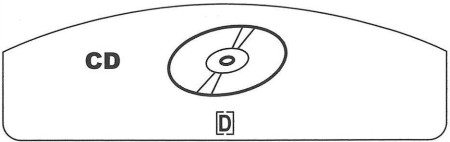


Z150R056

If the radio / CD is turned from off to on while the ignition is on, the display shows the main animated radio or CD screen (depending on the music source selected). After 2 seconds the display reverts to the trip computer screen with the radio / CD information on the left side of the display.



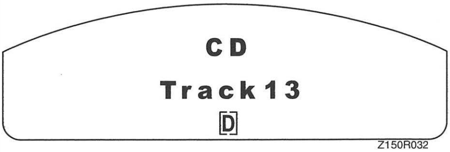
Z150R054



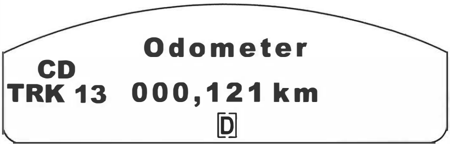
Z150R031

If the radio / CD is turned off, no radio / CD information is shown on the display.

On selection of a radio station, radio band, CD, CD track or function, the display shows the selection in the centre of the screen. After 2 seconds the display reverts to the trip computer screen with the radio / CD information on the left side of the display.



Z150R032

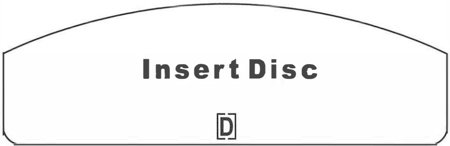


Z150R033

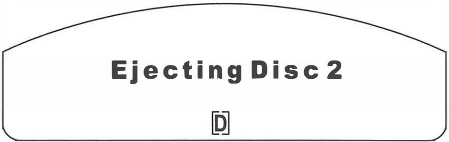
RADIO / CD AND CLOCK cont.

If a CD changer is fitted, the display provides message screens informing the driver when to insert or remove discs. It also informs the driver of current functions being performed by the unit such as 'Ejecting Disc 2' or 'Please Wait...'. The display remains until the action is completed or the driver presses the trip computer MODE button. The display reverts to the last trip computer display.

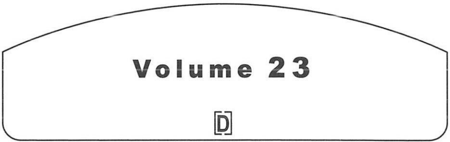
When changing the audio system settings such as Volume, Bass, Treble, Balance, Fader and Boost, the driver can also use the trip computer switch buttons to select and change the settings. Once the adjustment has been made, the setting is displayed for 2 seconds before reverting to the original trip computer display.



Z150R034



Z150R035



Z150R053

Clock – to adjust time

Time or radio frequency are selected with the **TIME** button. When the time is displayed and the radio is on, the time is set as follows:

1. Press the **TIME** button for more than 2 seconds. The display shows 'TIME ADJ' (or 'SET TIME', depending on luxury level) and the time flashes.
2. **To adjust the hours:** press the **⏮ SEEK / TRACK ⏭** button.
3. **To adjust the minutes:** press the **◀◀ TUNE ▶▶** button.
4. Press the **TIME** button to save the new setting.

Note: The radio automatically exits the clock setting mode if no adjustments are made for 8 seconds.

Audio System Personal Identification Number (PIN)

The radio has an electronically coded security system. The system recognises the vehicle into which the radio has been installed. If the radio is kept in the vehicle (even if the battery or the radio has been removed and reinstalled) the PIN is not required.

If, for some reason, the electronic link between the vehicle and the radio is disrupted, the radio will prompt you for a 4-digit PIN to be entered. Refer to 'Security Release Procedure' in the Audio System Handbook in the glovebox for more details.

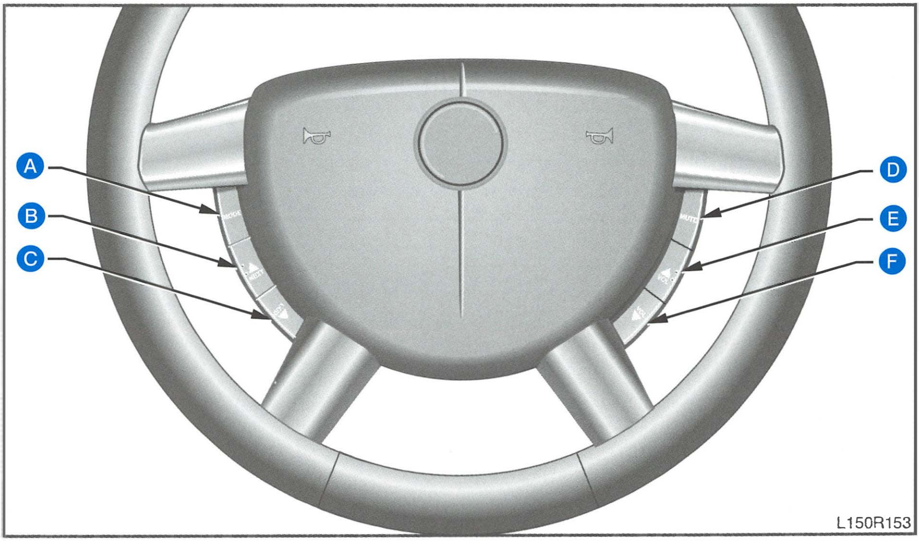
The PIN is supplied on the Security Card. Refer to Chapter 2. As the PIN is the only means of enabling operation of the radio, we recommend the Security Card be placed in your wallet or personal card holder. Do not leave it in the glovebox of the vehicle. Keep a copy of the PIN with other important documents.

If the Security Card is lost and the PIN is not recorded elsewhere, the PIN can be requested from your Holden Dealer, after supplying the proof of ownership. There may be a nominal charge for this service.

Note: For added security, a small red light on the radio blinks while the ignition is off.

REMOTE RADIO / CD CONTROLS

Remote controls for the radio / CD are provided by buttons located on the left and right side of the steering wheel centre pad.



Left side

Press the MODE button Ⓐ to alternate between different audio modes: radio FM1, radio FM2, radio AM and CD.

When the radio is playing:

Favourite radio stations can be assigned a 'preset' number so that they can be quickly recalled (see the Audio System Handbook in the glovebox).

Press the NEXT ▲ button Ⓑ to switch the radio up to the next preset station. For example, radio station number 3 is playing, press the NEXT ▲ button Ⓑ, radio station number 4 starts playing. Likewise, the NEXT ▼ button Ⓒ switches the radio down a preset station.

When a CD is playing:

Tap the NEXT ▲ button Ⓑ or ▼ button Ⓒ to switch between CD tracks.

CD Changer only – Press and hold the NEXT ▲ button Ⓑ or ▼ button Ⓒ to switch between the different CDs.

Right side

Press the VOL ▲ button Ⓔ to turn the volume up.

Press the VOL ▼ button Ⓕ to turn the volume down.

Note: Either hold down the button for as long as required, or tap the button, for small changes in volume.

Press the MUTE button Ⓓ to switch the volume down by 20 decibels. Sound is only heard if the radio was very loud before muting.

Press the MUTE button Ⓓ or the VOL ▲ button Ⓔ to un-MUTE the radio.

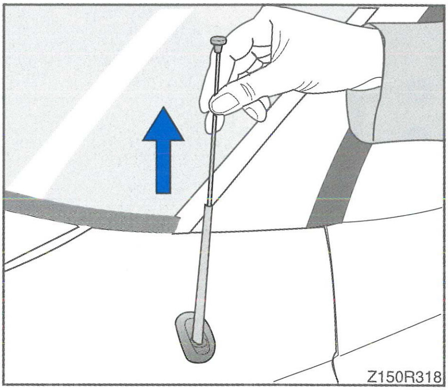
ANTENNA

The best reception is gained when the antenna is fully extended. However, to guard against breaking or bending the antenna, it may need to be retracted (for overhanging trees or car wash). Different antennas are fitted to different luxury level vehicles as follows:

Manual antenna ✻

Pull up or push down by hand.

If required, the antenna can be pushed fully down to the 'lock' position. To extend, insert the special key (provided in the glovebox) into the slots at the base of the antenna and pull up the top of the antenna, which can then be extended for maximum distance reception.



Electric antenna – full up / full down type ✻

When the radio is switched on the antenna extends to full height; when the radio is switched off or a CD is playing, the antenna fully retracts. If you have need to retract the antenna (clearance for overhanging bushes for example) while driving, turn off the radio by pressing the ON / OFF button or play a CD until clear of the obstacle.

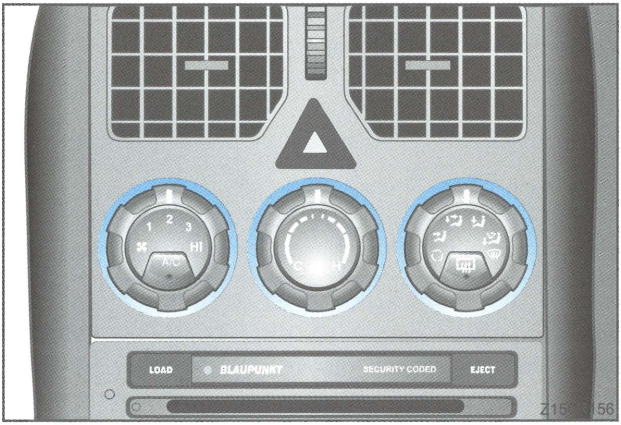
Cleaning

Regularly clean the mast antenna shaft with a felt cloth, water and a mild detergent. This not only helps the mast antenna retract, but also aids radio reception.

Damage

If the mast antenna becomes bent or is broken, have a replacement antenna fitted by your Holden Dealer as the motor and / or drive mechanism can become damaged by trying to operate a bent or broken antenna. Replacement of a bent or broken mast antenna may not be covered by warranty.

STANDARD HEATER, AIR CONDITIONER *



Mode dial

Recirculate: Interior air is recirculated and directed back through the face-level vents. Refer to operating notes on the following page.

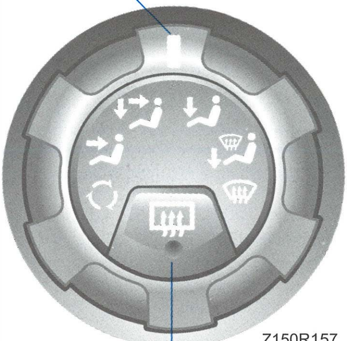
Face: Air comes from the face-level vents and the rear seat vents.

Bi-level: Cooler air comes from the face-level vents and warmer air from the floor vents, provided the temperature lever is moved away from extreme cold or extreme hot. This position can be used for most winter driving.

Floor: Air comes from the floor vents.

Floor and windscreen demist (blend): Air comes from the floor and demist vents.

Windscreen demist: Air comes from the demist vents.



Z150R157

Rear window demist

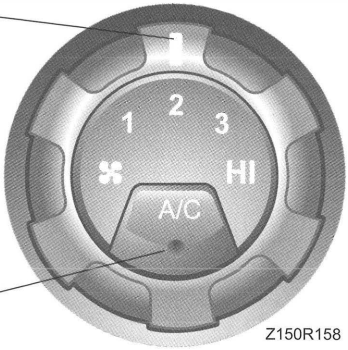
Press the rear window demister switch to turn the demister on. Press the switch again to turn the demister off. The light in the switch indicates when the demister is working.

To avoid unnecessary electrical consumption, the demister automatically switches off after 15 minutes or if the ignition is switched off.

STANDARD HEATER, AIR CONDITIONER ✻ cont.

Fan dial

The fan dial provides speed control of the blower fan in all Mode dial positions.



Z150R158

Air conditioning ✻

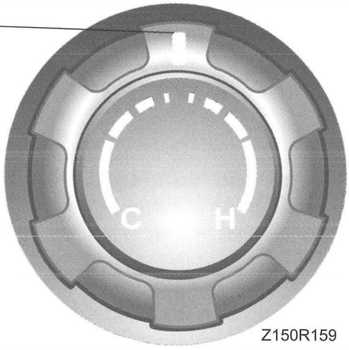
The air conditioning is turned on when the A/C switch is pressed. Press the A/C switch again to turn the air conditioner off. The light in the switch indicates when the air conditioner is on.

Note:

- The fan must be set to 1 or above before the air conditioning will work.
- When the air conditioner is switched on and the Mode dial is turned to either Bi-level, Face or Recirculate, air is also delivered from the rear seat vents.
- The air conditioner operates most effectively when all the windows are closed.

Temperature dial

The temperature dial adjusts the temperature of the air entering the passenger compartment in all Mode dial positions.



Z150R159

STANDARD HEATER, AIR CONDITIONER NOTES

Unsealed roads

When following another vehicle on dusty roads, or to prevent exhaust fumes or odours entering the vehicle, select the Recirculate position on the mode dial. Make sure that all of the windows are closed and switch on air conditioning ✻.

When driving on unsealed roads where the dust is not airborne, use the face or Bi-level setting of the mode dial (with the windows closed) and the fan preferably on a high speed so that positive air pressure in the vehicle will help to prevent any dust entry.

Note: Recirculate mode reuses interior air and is therefore not recommended for long periods of time.

Air conditioning ✻

Hot weather: For a 'quick cool down' when first entering the vehicle on a hot day:

1. Switch on the air conditioner.
2. Turn the mode dial to Recirculate.
3. Turn the temperature control dial to the coldest setting.
4. Turn the fan to a high speed.
5. Open the windows to allow the hot air to escape.
6. After a minute or two, close the windows, as the air conditioning works most effectively with the windows up.
7. Select Face mode, which provides outside air, when the interior cools down (10 to 20 minutes) to achieve and maintain best comfort conditions during extended driving.

Note: The coolest temperature is achieved when Recirculate is selected. This can be used in slow city traffic or when the vehicle is stationary in very hot weather. Occasionally select face or Bi-level to allow outside air to enter the vehicle.

Engine performance / fuel economy: The air conditioner uses power from the vehicle's engine. Therefore, you will notice a small decrease in engine power and a slight increase in fuel consumption when the air conditioner is in use. When driving at high speeds, the air conditioning compressor may switch off momentarily so that full engine power is available.

The system is protected by switches that guard against abnormal loads and loss of refrigerant. The compressor may switch off permanently. Have the system checked by a Holden Dealer if this occurs.

Regular running: It is important that once every 2 weeks, with the engine running, the air conditioner is switched on for 5 to 10 minutes (even in winter) to lubricate the air conditioner system seals.

Hissing: Occasionally a slight hissing sound may be heard for a short time when the air conditioner switches off and pressure in the system equalises. This is normal.

Water: Water condensation forms when the air conditioning is operating, this condensation is discharged underneath the vehicle. Therefore, traces of clean, clear water on the ground underneath the vehicle are normal under these circumstances.

STANDARD HEATER, AIR CONDITIONER NOTES cont.

Demisting

If the side windows or windscreen fog up on a cold day:

1. Switch on the air conditioner ❄.
2. Turn the fan switch to a high speed.
3. Turn the mode dial to demist and floor (blend) position.
4. Select a warm setting with the temperature control dial.

This circulates warm, dehumidified air throughout the vehicle, defogging the windows.

Note: The air conditioner not only reduces temperature but also reduces humidity and dust.

Automatic transmission

If the vehicle is stationary for long periods in hot weather with the engine running and the air conditioner operating, select Neutral or Park with the transmission gear selector.

Cigarette smoke

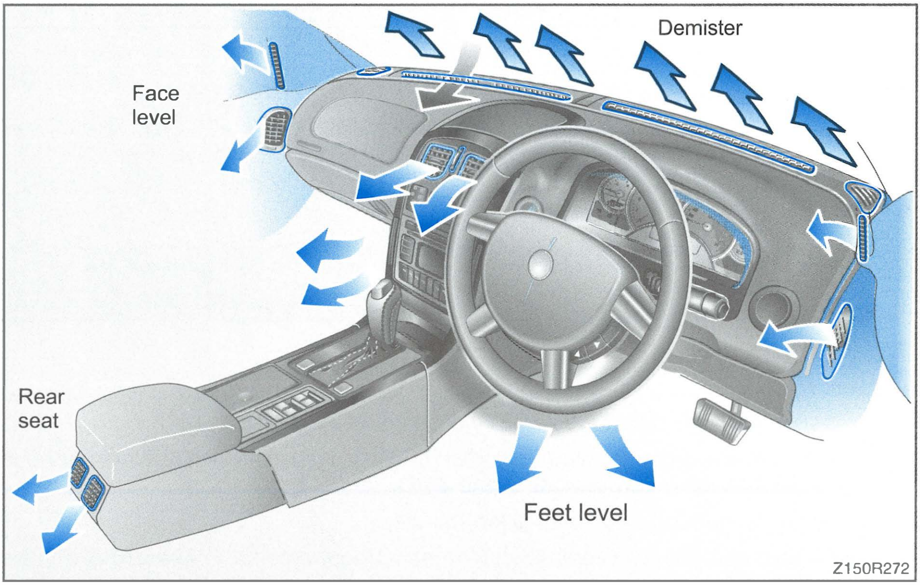
If occupants are smoking, it is recommended that the recirculate position not be used.

VENTILATION SYSTEM

The vehicle features a flow-through ventilation system for comfort. Under reasonable conditions, it should not be necessary to open the windows at any time. Outside air (except when recirculate is selected) is drawn into the vehicle through the opening between the bonnet and the windscreen. Do not allow this grille to become clogged with debris, such as leaves or snow. Any leaves should be removed each time the vehicle is washed (recommended weekly).

Vents

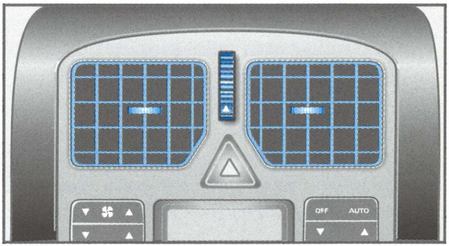
The air may be directed to different types of vents.



The face and rear seat vents have adjustable vanes which may be swivelled up or down and left or right to allow directional control of air flow.

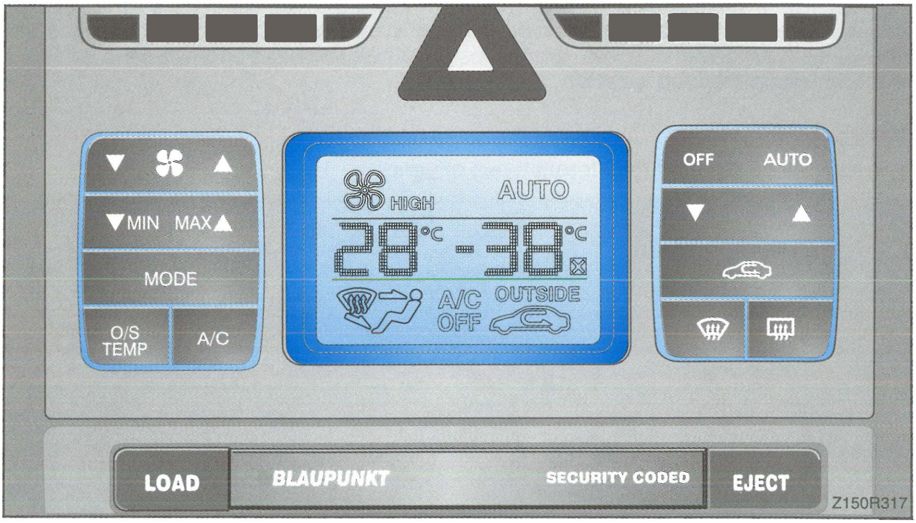
These vents have shut-off doors which can also be used to adjust the air volume to suit individual comfort. For example, air flow at the centre vents can be reduced to enhance air flow at the rear seat vents.

The feet-level and demister vents are fixed, as these direct air to the windscreen, feet and side windows in the best possible way.



CLIMATE CONTROL ✻

The climate control panel is located in the centre of the dashboard. It is designed to maintain the interior of the vehicle at the desired temperature.



Automatic operation

1. Start the engine.
2. Press the AUTO button if the AUTO icon is not already displayed.
3. Use the red ▲ (warmer) or blue ▼ (cooler) button to adjust the temperature read-out. Try an initial setting between 22°C and 24°C.
4. Allow the system to stabilise for a few minutes.
5. Adjust the angle of the air vents to your personal requirements. For example, with the air vents pointing directly at your body or face for initial cooling and then pointed away for a more general effect once you have cooled down.

   Note: The setting does not change between the ignition being turned off or on (except if extreme hot or cold is selected). Therefore, you need only change the setting when you wish to alter the comfort level.

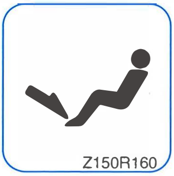
▼ MIN / MAX ▲ buttons

Pressing the ▼MIN button moves the temperature to the coldest end of the scale (17°C). The display shows a 'C' for cold. Subsequent pressing of the ▼MIN button moves the temperature back to the previous setting.

Pressing the MAX▲ button moves the temperature to the hottest end of the scale (30°C). The display shows a 'H' for hot. Subsequent pressing of the MAX▲ button moves the temperature back to the previous setting.

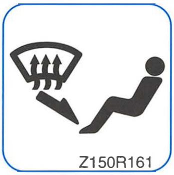
Note: The system must be on (display showing) to make any adjustments.

CLIMATE CONTROL ✻ cont.



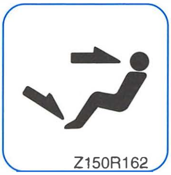
Floor

Air is directed to the floor-level vents.



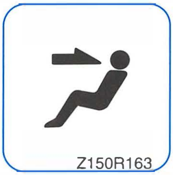
Demist and floor (Blend)

Air is directed to the floor-level vents and windscreen demist outlets.



Bi-level

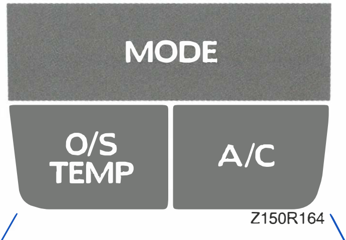
Cooler air is directed to the face-level and rear vents and warmer air is directed to the front floor-level vents.



Face

Air is directed to the face-level and rear vents.

MODE Tap this button to switch between Floor-level, Front demist / Floor-level, Bi-level and Face-level modes.



O/S TEMP Tap this button to alternate the display between temperature outside the vehicle and normal display.

Pressing other buttons to adjust the climate control will also change the display from showing O/S temp to showing the normal display.

Pressing O/S TEMP does not take the system out of automatic mode.

A/C Switches air conditioning between OFF and ON.

To conserve fuel, you may wish to switch the air conditioning off in cold weather. The climate control maintains automatic control of all other functions but does not turn on the air conditioning, even if cabin temperature gets too high.

When A/C is switched on, the air conditioning operates as required, removing moisture and heat from the air.

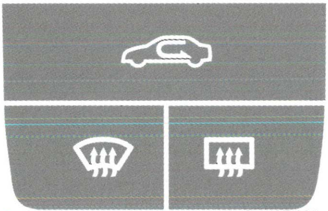
Air conditioning should be switched on for at least 5 to 10 minutes once every 2 weeks to lubricate the A/C seals, even in winter.

CLIMATE CONTROL ✻ cont.

RECIRCULATION Switches air intake to recirculated air. The recirculation symbol is shown on the display when recirculation is selected.

Note:

- Recirculate reuses interior air and is therefore not recommended for long periods of time.
- The recirculate position should not be used if occupants are smoking.
- Recirculation automatically switches off after 40 minutes, or it can be manually turned off by pressing the switch again.



Z150R165

WINDSCREEN DEMIST Climate control cannot determine demist requirements. Tap this button for demisting the windscreen and side windows. The system changes the outlets to demist and switches on the air conditioning.

The light in the switch illuminates and the windscreen demist icon is shown on the display when demist is selected.

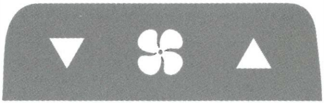
Press the switch again to turn the demister off.

REAR WINDOW DEMIST Press the rear window demister switch to turn the demister on. Press the switch again to turn the demister off.

The light in the switch illuminates when demist is selected.

To avoid unnecessary electrical consumption, the demister switches off automatically.

CLIMATE CONTROL ❄ cont.


Z150R166

FAN Press ▼ or ▲ on the fan switch to increase or decrease the fan speed.

Five manual fan speeds are available. When the fan are adjusted manually, the fan blade graphics fill according to the fan speed, for speeds 1 to 4. The HIGH icon appears next to the fan graphic on speed setting 5.

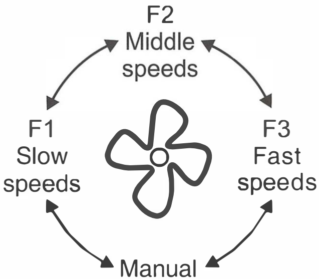
When the AUTO button is pressed all functions, including the fan speed, go into auto mode. When the fan is operating automatically, the fan blade graphics are clear.

In auto mode, three sets of fan speeds are available for individual preference. When AUTO is first selected, the fan uses the middle set of fan speeds (F2). Press the fan ▼ or ▲ buttons to change to the faster (F3) or slower (F1) set of fan speeds.

Note: The F1, F2 or F3 icons appear briefly below the fan graphic when the button is pressed, representing the fan speed range selected.

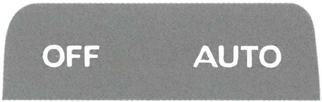
If the Manual position is selected the fan returns back to manual mode.

When the engine is not running, the fan speed is limited to conserve the battery.



Z150R168

OFF Switches the system off and on.



Z150R167

AUTO Pressing this button switches the system to full automatic control (the AUTO icon is displayed).

Manual override of any controls can impede the system maintaining the set temperature. It is designed to operate with a minimum of manual adjustment. The AUTO icon on the display extinguishes when *not* in full auto mode.

Allow the system to stabilise before changing comfort settings.

CLIMATE CONTROL NOTES

Adjusting the temperature

When the climate control system has stabilised and you wish to adjust the setting, it is recommended that the adjustment be made one tap at a time (each tap is 1°C) until the desired comfort level is reached. Comfort settings depend on clothing, acclimatisation and the angle at which you have directed the vents.

The system can be set anywhere between 17°C (coolest) and 30°C (warmest). Pressing the red arrow when 30°C is already showing causes the display to show 'H' (hottest); pressing the blue arrow when 17°C is already showing causes the display to show 'C' (coolest).

What the system does

In automatic operation the system responds quickly to cooling and heating requirements. It is not necessary to set a cooler or hotter temperature than required to ensure fast cooling or heating.

The system should be left on automatic operation, as it can then:

- Turn air conditioning on and off.
- Vary the temperature of the air entering the cabin.
- Recirculate interior air or take air in from outside the vehicle.
- Vary the fan speed.
- Select the vents through which the air is delivered.

For example, on a cold morning, air is directed to the windscreen. Then, as the engine warms up, warm air is directed to the foot vents. Later still, the system changes to Bi-level, the fan slows down and changes to face-level and foot vents.

You may need to manually adjust the angle of the vents at various times. For instance, to direct cool air onto your body on hot days or past your body on mild days.

Quick cool down

To aid the climate control when first entering the vehicle on a hot day, open the windows to allow the hot air to escape. After a minute or two, close the windows to allow the system to work more effectively.

Engine performance / fuel economy

The climate control's air conditioner uses power from the vehicle's engine. As a result, you will notice a small decrease in engine power and a slight increase in fuel consumption when the air conditioner is in use. When driving at high speeds, the air conditioning compressor may switch off momentarily so that full engine power is available.

The system is protected by switches that guard against abnormal loads and loss of refrigerant. The compressor may switch off permanently. Have the system checked by a Holden Dealer if this occurs.

Automatic transmission

If the vehicle is stopped for long periods in hot weather with the engine running and the air conditioner operating, select Neutral or Park with the transmission gear selector.

CLIMATE CONTROL NOTES cont.

Regular running

It is important that once every 2 weeks, with the engine running, the climate control's air conditioner is switched on for 5 to 10 minutes (even in winter) to lubricate the air conditioner system seals.

Hissing

Occasionally a slight hissing sound may be heard for a short time when the climate control's air conditioner switches off and pressure in the system equalises. This is normal.

Water

Water condensation forms when the climate control's air conditioner is operating, this condensation is discharged underneath the vehicle. Therefore, traces of clean, clear water on the ground underneath the vehicle are normal under these circumstances.

Cigarette smoke

If occupants are smoking, it is recommended that the recirculate position not be used.

Unsealed roads (prevention of dust entry)

When following another vehicle on unsealed roads (and the dust is airborne), it is recommended that recirculation be selected. However, if the dust is not airborne it is recommended that the setting be on outside air (recirculation off) and that the fan be on a high speed. This builds up positive air pressure to help prevent dust entry. Ensure in both cases that all windows are closed.

Note: Recirculate mode reuses interior air and is therefore not recommended for long periods of time.

Something wrong?

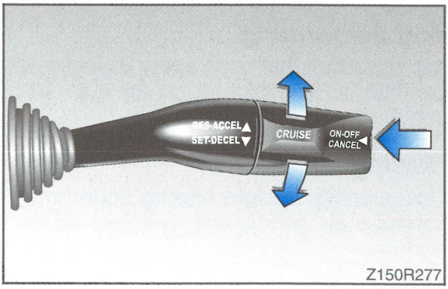
The X symbol illuminates on the display when there is a fault in the system. Contact your Holden Dealer, who has the necessary equipment to diagnose the system.

Sensors

The climate control uses three different sensors to maintain the desired temperature.

- The sunlight sensor, is a small rectangle fixed to the top-centre of the dashboard. Do not cover the sensor or place metal objects close by, as this may block the input. Occasionally clean the sensor.
- The outside temperature sensor is located in front of the condenser and relies on air moving across the sensor. You may notice a difference between the temperature shown on your climate control display and the temperature shown on roadside temperature displays. This is due to the vehicle's sensor being closer to the condenser and road, which radiates heat.
- The in-car sensor, which is located in the dashboard. Refer to page 1-3. This measures the temperature inside the vehicle. It is important not to cover the sensor (for example, with stickers).

CRUISE CONTROL ✻



Z150R277

The cruise control maintains the vehicle's speed without you having your foot on the accelerator pedal.

For safety reasons, the cruise control cannot be activated until the foot brake has been operated at least once after the ignition has been turned on.

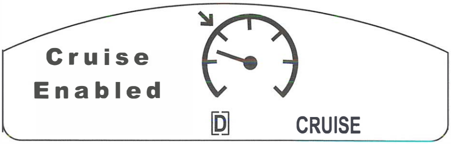
The cruise control lever is located on the right side of the steering column, as shown.

The ON-OFF / CANCEL switch is located at the end of the lever and is activated by pushing in towards the direction of the steering column.

The outer half of the lever rotates up to the RES-ACCEL position or down to the SET-DECEL position.

The SET-DECEL position is used to set initial speed and to decrease speed.

The RES-ACCEL position is used to resume 'memory' speed and to increase speed.



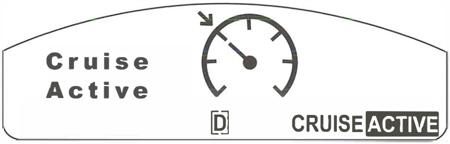
Z150R022

Note: The brake pedal must have been depressed during the current drive cyle prior to the engagement of the cruise control.

TO SET INITIAL SPEED

1. Turn on the ignition.
2. Press the ON-OFF / CANCEL switch. The 'Cruise Enabled' animated symbol and small CRUISE icon displays on the instrument panel. After 2 seconds, the display reverts to the CRUISE icon indicating that the power is on.
3. Press the accelerator pedal until travelling at your desired speed (must be above 40 km/h) and then rotate the lever down to the SET-DECEL position.

   The 'Cruise Active' animated symbol and CRUISE ACTIVE icon now display on the instrument panel. Release both the accelerator pedal and the lever, as the cruise control is now maintaining the speed.



Z150R021

4. After 2 seconds, the display reverts to the CRUISE ACTIVE icon indicating that the cruise control is now engaged.

TO ADJUST YOUR SET SPEED

You may either:

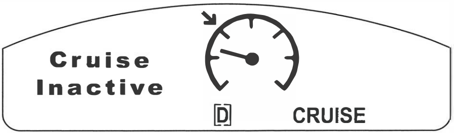
- Rotate the lever down to the SET-DECEL position until the vehicle slows down to the desired speed, then release.
- Rotate the lever up to the RES-ACCEL position until the vehicle accelerates up to the desired speed, then release.

Minor changes in speed (approximately 1 km/h) can be achieved by momentarily rotating the lever; up or down. When reducing speed, remember that the cruise control is not designed to operate under 40 km/h.

CRUISE CONTROL ✻ cont.

TO PAUSE THE CRUISE CONTROL

Press the brake pedal, or press the clutch pedal (if the vehicle is fitted with a manual transmission) or press the ON-OFF / CANCEL switch once. This deactivates the cruise control. The 'Cruise Inactive' animated symbol displays and the ACTIVE icon turns off, but cruise control retains the speed in its memory. To regain the memory speed momentarily rotate the lever to the RES-ACCEL position, provided you are travelling over 40 km/h. Holding the lever in the RES-ACCEL position for longer than 1 second causes the vehicle to accelerate.

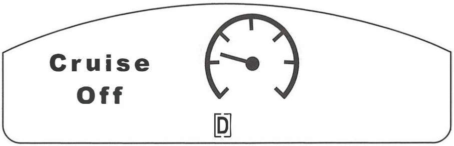


Z150R023

TO TURN THE CRUISE CONTROL OFF

Press the ON-OFF / CANCEL switch twice.

The 'Cruise Off' animated symbol displays and the CRUISE icon turns off.



Z150R024

Pressing the ON-OFF / CANCEL switch once pauses the cruise control but keeps the system ready and the speed in memory.

A second press turns the system off completely and wipes the speed memory clear.

A third press turns the system back on to ready, without any speed memory.

In addition, turning off the ignition completely turns off cruise control and wipes the speed memory clear.

WARNING:

- Do not use the cruise control when road or driving conditions require varying speeds. A constant speed isn't practical in heavy or varying traffic, or on winding, slippery or rough roads.
- Remember that when both the CRUISE and the ACTIVE symbols are showing, the cruise control is maintaining the vehicle's speed. Taking your foot off the accelerator pedal does not reduce the speed. To deactivate the cruise control, either press the brake pedal, press the clutch pedal (if the vehicle has a manual transmission) or push the ON-OFF / CANCEL switch.
- The cruise control does not apply the vehicle's brakes. Therefore, the vehicle may gain speed when going down steep hills.
- When climbing steep hills (particularly when towing) it is possible for the vehicle to lose speed. You may need to switch off the cruise control and use the accelerator pedal.
- The cruise control is cancelled if the traction control system becomes active, indicated by the 'Low Traction' animated warning on the instrument panel display.

Automatic transmission: If cruise control is maintaining vehicle speed, the transmission overrides Power / Normal mode selection and operates in cruise mode, providing optimum driveability. Cruise mode is neither a Power or Normal mode pattern and the PWR symbol switches off when cruise control is maintaining vehicle speed.

CHAPTER 2

Locks

Page

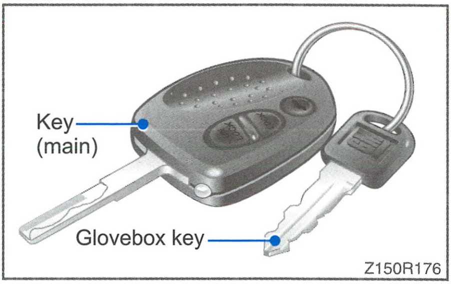
2-2 Keys
2-3 Door locks
2-6 Alarm
2-8 Ignition lock
2-9 Child safety and free turning door locks
2-10 Bonnet lock

✻ The asterisk signifies equipment options not in all vehicles (model variants, engine options, optional equipment and Genuine Holden Parts and Accessories).

KEYS

Key (main)

This key operates all locks and ignition, except for the glovebox.



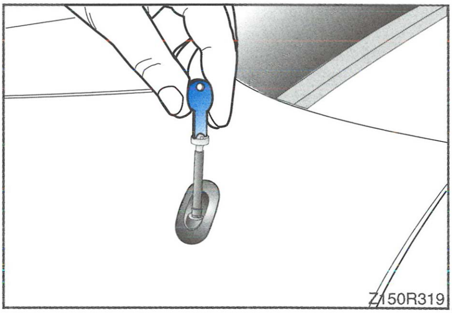
Z150R176

Glovebox key

The glovebox key locks and unlocks the glovebox. This key can usually be kept in the unlocked glovebox. When leaving the vehicle and master key with a car park attendant you can lock valuables in the glovebox and take the glovebox key with you.

Manual antenna key (for vehicles without electric antennas)

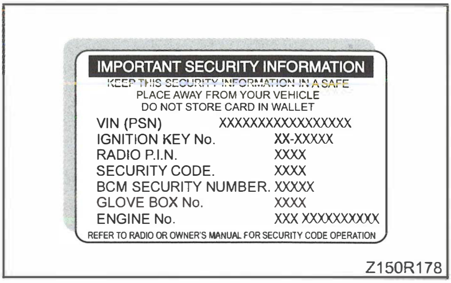
To guard against breakage, the manual antenna can be pushed fully down. To extend the antenna again, insert the antenna key in the antenna slots and pull the antenna up.



Z150R319

Key numbers – security card

The security card lists various security numbers for your vehicle, including key numbers, and the radio PIN. Please keep the card in a safe place, away from your vehicle. If a key is lost, a replacement can be ordered through any Holden Dealer by quoting the key code number, security number and providing proof of ownership.



IMPORTANT SECURITY INFORMATION

KEEP THIS SECURITY INFORMATION IN A SAFE
PLACE AWAY FROM YOUR VEHICLE
DO NOT STORE CARD IN WALLET

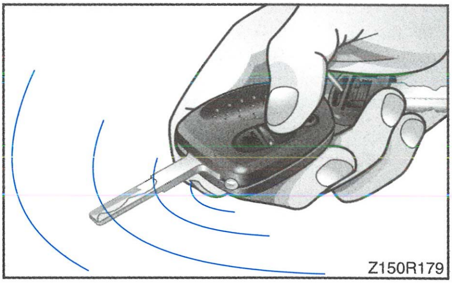
VIN (PSN)	XXXXXXXXXXXXXXXXX
IGNITION KEY No.	XX-XXXXX
RADIO P.I.N.	XXXX
SECURITY CODE.	XXXX
BCM SECURITY NUMBER.	XXXXX
GLOVE BOX No.	XXXX
ENGINE No.	XXX XXXXXXXXXX

REFER TO RADIO OR OWNER'S MANUAL FOR SECURITY CODE OPERATION

Z150R178

Pressing buttons

When pressing the key buttons, ensure that other keys on the key ring are not between the main key and the vehicle. Other keys can obscure the signal being transmitted to the vehicle. Refer to 'Notes about the keys' further on in this chapter.



Z150R179

DOOR LOCKS

Lock

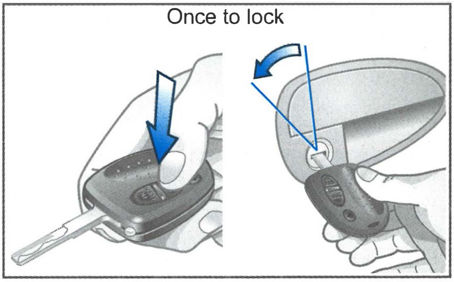
Doors are locked when the lock knob is down.

Automatic vehicles: Vehicles fitted with an automatic transmission have an 'Auto lock in drive' feature which locks the doors automatically when the transmission selector is shifted out of Park. This feature can be selected from the instrument panel Options menu. Refer to 'Options Menu' in Chapter 1.

Manual vehicles: For safety reasons, the vehicle cannot be locked using the remote key if the key is in the ignition or if the driver's door is open.

PREFERRED METHOD: Press the LOCK button on the key within 4 metres of the vehicle to lock all doors and set the alarm ✻. The vehicle's turn signals briefly flash once when the signal is received.

Note: There are two door lock indications you can choose; turn signals flashing or turn signals flashing accompanied by the sounding of the horn. Refer to 'Options Menu' in Chapter 1.



Z150R281

ALTERNATIVE METHOD: Insert the key in the driver's door lock and turn towards the rear of the vehicle, then turn it back to the vertical position and remove.

Note: The alarm is not set using this method.

IF STAYING IN THE VEHICLE: Press the door lock knobs down.

Note: All doors are locked at the same time by pushing down either front door lock knobs.

Deadlock

For further protection when leaving the vehicle, you can deadlock the doors. Deadlocking electronically jams all the electric locks so that no door can be opened, even if entry is gained by breaking glass.

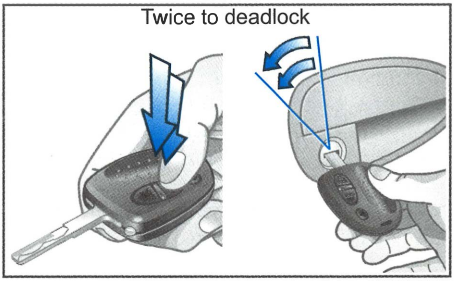
WARNING:

Do not use deadlock if there are people in the vehicle. The doors cannot be unlocked from the inside.

To engage deadlock

PREFERRED METHOD: Press the LOCK button twice in succession. Press the LOCK button once to lock the vehicle, then press it again (within 10 seconds) to engage the deadlock. The vehicle's turn signals give a long flash of approximately 3 seconds (and the horn chirps, if selected).

ALTERNATIVE METHOD: Insert the key in the driver door lock and turn the key twice towards the rear of the vehicle. That is, once to lock the doors, then a second time to engage the deadlock.



Z15OR282

DOOR LOCKS cont.

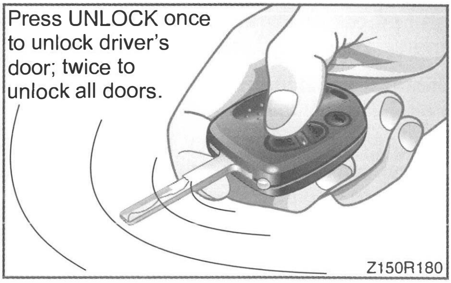
To disengage deadlock

Press UNLOCK on the key (within 4 metres of the vehicle). This unlocks the doors.
Note: Disengaging the deadlock occurs when unlocking the doors in the normal way.

Unlock

Press the UNLOCK button on the key within 4 metres of the vehicle. The turn signals flash twice (and the horn chirps twice, if selected) and the interior light is turned on for a short time.

If UNLOCK is pressed once, the driver's door (and wagon tailgate) unlock. The other doors undeadlock but remain locked. If UNLOCK is pressed a second time, or is held down for more than half a second, all the doors unlock.


Press UNLOCK once to unlock driver's door; twice to unlock all doors.

If you prefer to have all doors unlock with a single press, the above two-stage unlock feature can be changed to all unlock from the instrument panel Options menu. Refer to 'Options Menu' in Chapter 1.

If the key is turned towards the front of the vehicle in the door lock cylinder to unlock the vehicle, the doors will unlock but the alarm will be set off as soon as a door is opened. If this happens turn the key in the ignition to the On position to shut off the alarm.

Turn signals

If unsure whether the vehicle is locked or deadlocked, press the LOCK button on the key. If the vehicle is already deadlocked the lights give a long flash; if the vehicle is locked the lights give a short flash but do not engage the deadlocking. If the LOCK button is pressed twice within 10 seconds, the lights give a long flash to indicate that deadlocking has occurred.

If locking has not worked

- If the lock system is overloaded as a result of repeated operation in a short time interval, the power supply is cut off for approximately 30 seconds.
- *Vehicles with an alarm:* The door lock system has been designed to make the vehicle horn chirp rapidly five times if it detects a fault in the lock system when the LOCK button is pressed. Check to see that the doors are locked.
- *Vehicles without an alarm:* The door lock system has been designed to flash the turn signals when the vehicle is locked with the LOCK button. If this does not happen it indicates a fault. Check to see that the doors are locked.

DOOR LOCKS cont.

How the door lock knobs work

- Pulling up any door lock knob unlocks all doors.
- Pushing down either of the front door lock knobs locks all doors; pushing down either of the rear door lock knobs locks only that door.
- Either rear door can be locked behind you by pressing the lock knob when the door is open, then shutting the door firmly. It is not necessary to hold the handle up when shutting. However, the lock knob of front doors cannot be pressed when either door is open.

Notes about the keys

- The key has a lithium battery inside the key head, which should last more than 5 years with normal use. A weakening battery is indicated by a progressive loss of range, which means you must be closer to the vehicle when pressing the key. When new, the key has a range of approximately 4 metres. The battery inside the key is not rechargeable. A flat key battery requires replacement of the key head.
- Tinting the vehicle windows reduces the range of the key if the tinting material has a metallic film.
- When a button on the key is pressed it sends a signal to the vehicle. The receiver of the signal is a small rectangle on the top centre of the dashboard. The receiver is also used to measure sunlight. It is therefore vital that the receiver is clean, not covered and that there are no metal objects close by, as this may block the signals.
- The LOCK button on the key will not work if the ignition is switched on or if the driver's door is open.
- The key buttons may not work if parked near high radio activity, such as under TV towers (most likely in high lookout car parks).
- The key buttons will not work if the battery inside the key is flat. Try turning the key in the ignition on, then off again and remove. Try pressing LOCK on the key again. If it still does not work a replacement key may be needed from your Holden Dealer.
- If, for any reason, pressing the key buttons does not work, the doors can be locked and unlocked by turning the key in the driver's door lock.
  - Turn the key towards the rear of the vehicle (once) to lock all doors.
  - Turn the key towards the rear of the vehicle a second time to engage the deadlock.
  - Turn the key towards the front of the vehicle to unlock and disengage the deadlock. If the vehicle is fitted with an alarm system, opening the door may cause the alarm to trigger. If this happens, turn the key in the ignition to the On position to shut off the alarm.
- If the battery in the vehicle is so flat that there is not enough power to unlock doors with the UNLOCK button, you can unlock the driver's door by forcefully turning the key towards the front of the vehicle in the door lock. The door lock knob does not pop up but pulling the handle still opens the door.

ALARM ✻

Switching on and off

The alarm system is turned on when the LOCK button on the key is pressed, and turned off when UNLOCK is pressed. Therefore, locking the doors by pressing LOCK not only locks all the doors but (after a short delay) also sets the alarm system.

When set off

The alarm is triggered when any of the doors or the bonnet are opened or a ‘hot-wire’ attempted; the alarm sounds and the turn signals and dome light flash.

To turn the alarm off do one of the following:

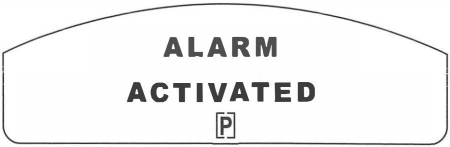
- Press UNLOCK on the key.
- Turn the ignition on.
- Allow the alarm to time out and reset itself, to guard against further break-in attempts.

Break-in

The exterior turn signals should flash twice when returning to your vehicle and pressing UNLOCK on the key.

If they flash three times, an attempted break in has occurred whilst the vehicle was armed.

To find out what set the alarm off, turn the ignition on and look at the instrument panel centre display for the 'ALARM ACTIVATED' message being shown. The 'ALARM ACTIVATED' screen is displayed first for 1 second, followed by the trigger point screens. The trigger point screens are also displayed for 1 second. If more than one trigger point has been activated the display shows each trigger point screen in sequence for 1 second, returning back to the 'ALARM ACTIVATED' screen.



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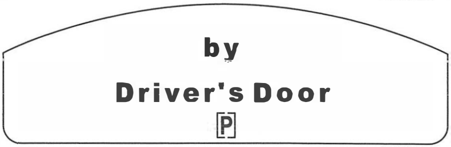


Z150R002

The alarm screens are shown in a continuous cycle until the trip computer switch MODE button is pressed. The centre display then reverts to the last screen shown prior to switching the ignition off. The range of possible trigger point screens, depending upon the model, are:

- ‘by Bonnet’ – the bonnet has been opened.
- ‘by Passenger doors’ – one of the passenger doors has been opened.
- ‘by Driver's door’ – the driver's door has been opened.
- ‘by Hot Wire’ – hot wiring of the vehicle was attempted (ignition on without key inserted).

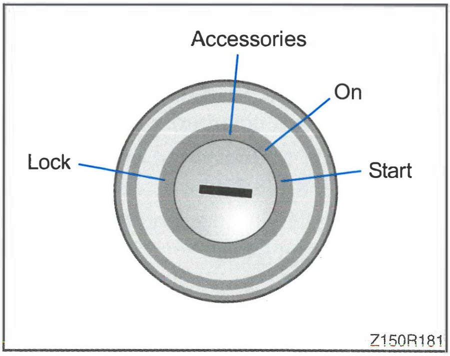
ALARM ✻ cont.

Notes about the alarm:

- The alarm system is turned off and on when the UNLOCK and LOCK buttons on the key are pressed. When the alarm system is switched on, turning the key in the lock and then opening the doors triggers the alarm. The alarm system thinks a break-in has occurred.
- The LOCK button on the key does not function when the ignition is turned on or the driver's door is open.
- Pressing LOCK once on the key:
  - Locks all doors.
  - Disables the engine.
  - Sets the alarm (after a short delay).
  - Switches the interior dome light off (if the switch is set to door position).
  - Withdraws the power antenna ✻.
  - Flashes the exterior turn signals once (the horn chirps, if selected).
  - Deactivates the power windows ✻.
- Pressing UNLOCK once on the key:
  - Unlocks the driver’s door.
  - Enables the engine for a short time (as does turning the ignition key in the ignition switch).
  - Switches off the alarm.
  - Switches on the interior dome and power windows ✻ for a short time.
  - Flashes the exterior turn signals twice (the horn chirps twice, if selected).
  - Switches on the headlights for a predetermined time (to adjust, refer to ‘Lights’ in Chapter 1).
- Pressing UNLOCK a second time (or keeping the UNLOCK button pressed for more than half a second):
  - Unlocks all the other doors.
  - Reactivates headlights again.

IGNITION LOCK

WARNING:
Do not turn the engine off while the vehicle is moving or there will not be any power assist for brakes or steering. Never remove the key while the vehicle is moving, as this will lock the steering.



Lock

When the key is in the Lock position, all accessories, electrical systems and the engine are off.

The key is inserted and removed only from the Lock position.

To help guard against theft, the vehicle's engine is automatically disabled shortly after turning the key to the Lock position, indicated by the flashing padlock icon 🔒 on the bottom left hand corner of the instrument panel.

In addition, the steering is automatically locked when the key is removed. To release the steering lock and enable the engine, re-insert the key and turn it towards the front of the vehicle.

If you have trouble turning the key to unlock the steering, turn the steering wheel slightly to the right or left while turning the key towards the front of the vehicle.

Accessories

When the key is in the Accessories position, the engine will not run, however accessories such as the radio and wipers operate.

On

When the key is in the On position, the engine is ready to start (or is already started) and all electrical systems are active.

Note: The warning lights, which are designed to illuminate at the ignition On position, indicate the systems are working. These are explained early in Chapter 1.

Do not leave the switch in the On position for a prolonged period, unless the engine is running, otherwise the battery will discharge.

Start

The key should only be turned to the Start position momentarily and then released, as the engine starts automatically. The key automatically returns to the On position when released.

Note: On manual vehicles, the clutch must be depressed while turning the key or the vehicle cannot be started.

CHILD SAFETY AND FREE TURNING DOOR LOCKS

Child safety rear door locks (crew cab)

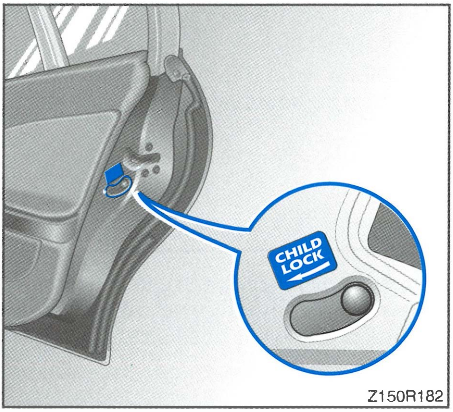
Child safety locking helps prevent rear doors being accidentally opened by small children in the vehicle.

The locks are provided on the rear edge of rear doors, accessible when the door is open.

When the lever is in the Lock position (to the front of the vehicle) the rear door cannot be opened from the inside. It can be opened only from the outside.

WARNING:

For safety, always check that the lock is operating correctly (after setting) by trying to open the door from inside the vehicle.



Free turning door locks

The door lock cylinder is designed to free turn if it is forcefully rotated without the correct key or if the correct key is not fully inserted. To reset, turn the lock with the correct key until its slot is vertical, remove the key and then re-insert it. If the lock still free turns, turn the key 180 degrees and repeat the operation.

Note: This feature is provided as a theft deterrent, to prevent the lock being forced open. The force required to make the key free turn reduces each time. As the force gets easier with each free turn please do not attempt to demonstrate or test this feature, and always remember to fully insert the key when locking and unlocking the doors.

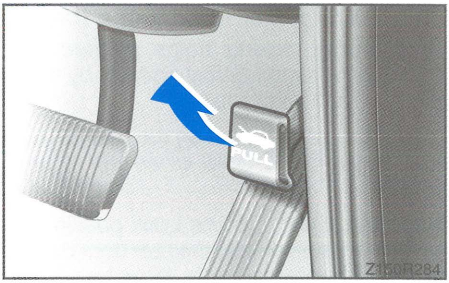
If you have problems contact your Holden Dealer.

BONNET LOCK

To open

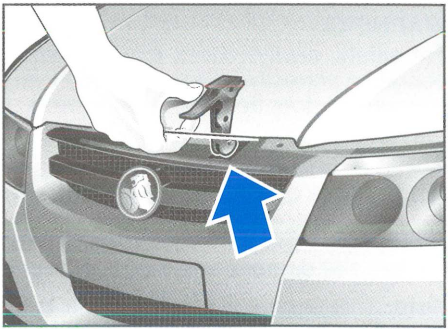
From the driver's side of the vehicle, pull the lever towards you, as illustrated.

This allows the bonnet to release but is prevented from opening by the safety catch.



To open completely, reach under the centre of the bonnet and move safety catch upwards. Hold in this position and raise the bonnet.

After you have partially lifted the bonnet, gas struts automatically take over to lift and hold the bonnet in the fully open position.



To close

Simply lower the bonnet into position and then press down on both sides simultaneously until the latch engages with an audible click.

WARNING:

- To avoid injury and / or damage to the vehicle, check each time the bonnet is closed that the contact area is unobstructed.
- If while driving you notice that the bonnet has not been properly closed, pull the vehicle over to the side of the road at the earliest possible moment and close the bonnet correctly.

CHAPTER 3

Know your vehicle

Page	
3-2	Front seat adjustment
3-4	Rear seat – crew cab
3-5	Seat belts
3-7	Which type of child restraint for your child?
3-8	Child restraints
3-11	Windows
3-12	Mirrors
3-13	Interior lights
3-14	Accessory control
3-15	Battery saver
3-16	Glovebox and centre console
3-17	Storage compartments
3-19	Ashtray, lighter and power socket
3-20	Cup holders
3-21	Park brake, footrest and assist grips
3-22	Rear tray / tailgate latches
3-23	Tonneau cover
3-28	Hard Tonneau cover
3-30	Sports bar

✻ The asterisk signifies equipment options not in all vehicles (model variants, engine options, optional equipment and Genuine Holden Parts and Accessories).

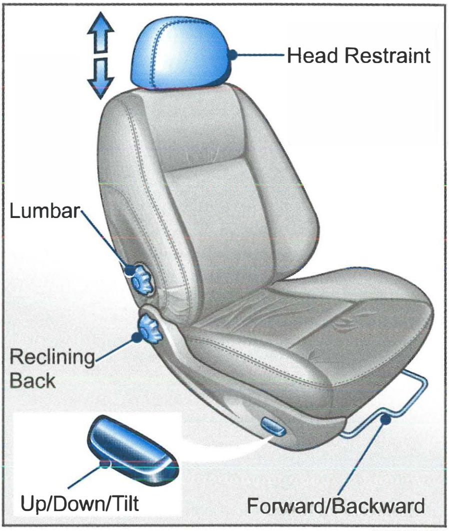
FRONT SEAT ADJUSTMENT

WARNING – SIDE IMPACT AIRBAGS✻:

Do not fit unauthorised seat covers as they may impair the deployment of the Side Impact Airbags. Do not position your body or any object (including pillows) between front seats and doors. Front seat occupants should not lean on or sleep against the door. Always sit centrally in the seat. Refer also to 'Airbags' in Chapter 6.

Driver height and tilt adjust ✻

Move the whole of the switch up or down to move the whole of the seat up or down. The switch can also be tilted to adjust the seat angle. Tilt the switch up at the front to tilt the front of the seat up. Similarly, tilt the switch down at the rear to tilt the seat down at the rear.



Z100R002

Forwards / backwards

Lift up the bar at the front of the seat, then slide the seat forwards or backwards. Release the bar. Try to move the seat back and forth to check that the catch is fully engaged.

WARNING:

Do not adjust the driver's seat when the vehicle is moving as the seat could move suddenly causing the driver to lose control.

Reclining back

Turn the lower toothed wheel on the door side of the seat. The seat back moves in the same direction as the top of the wheel.

WARNING:

To avoid reducing the effectiveness of seat belts, seats should only be semi-reclined when the vehicle is moving. The fully reclined position should only be used when the vehicle is stationary.

Lumbar support ✻

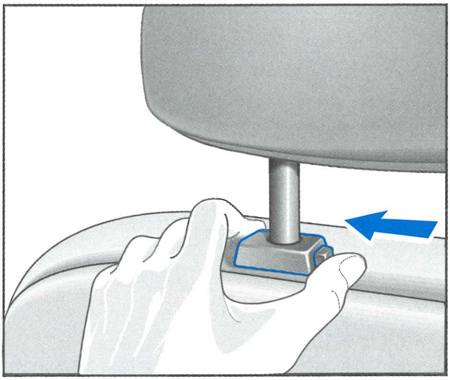
Turn the upper wheel to alter support given to the lower part of your back.

FRONT SEAT ADJUSTMENT cont.

Head restraint

Note: This safety feature is not intended as a headrest. It is solely for the reduction of whiplash neck movement in an accident involving your vehicle.

To raise the height of the head restraint, simply pull the head restraint up. To lower the height of the head restraint, push in the locking clip at the base of the head restraint pole and push the head restraint down. The upper edge of the head restraint should be approximately at eye level, never at neck level.

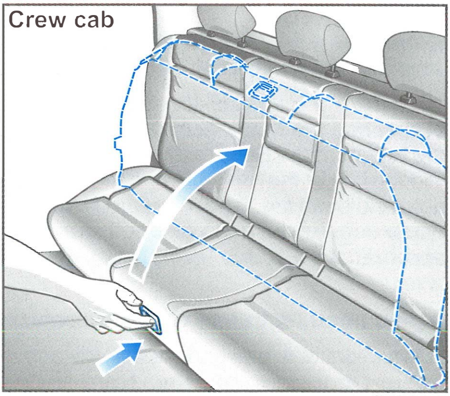

Z180R006

Active head restraints on front seats ✻

In the event of a rear-end impact, the active head restraints on the front seats automatically tilt forwards and up. The head is more effectively supported by the head restraint and the risk of neck injury is reduced.

REAR SEAT – CREW CAB

Lifting the rear seat cushion



Z170R025

The rear seat cushion lifts up to provide access to the jacking equipment and storage tray.

To lift the rear seat cushion:

1. Press the lock button on the front of the cushion to release the seat (as illustrated).
2. Lift the seat cushion to the upright position.

To return the seat cushion to the horizontal position, simply lower the seat into place, ensuring that the lock button engages the retaining latch.

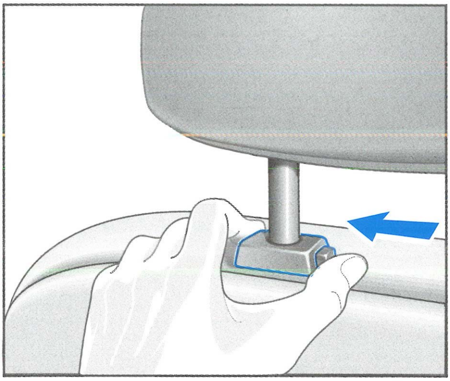
WARNING:

To avoid injury from passing traffic, it is safer to stand on the kerb side of the vehicle when accessing the area under the rear seat.

Head restraint

Note: This safety feature is not intended as a headrest. It is solely for the reduction of whiplash neck movement in an accident involving your vehicle.

To raise the height of the head restraint, simply pull the head restraint up. To lower the height of the head restraint, push in the locking clip at the base of the head restraint pole and push the head restraint down. The upper edge of the head restraint should be approximately at eye level, never at neck level.



Z180R006

SEAT BELTS

Lap / sash belts

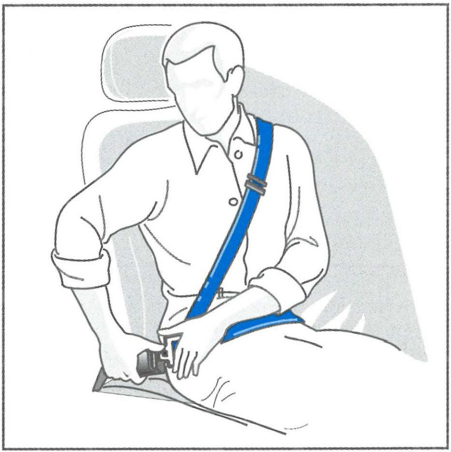
To fasten, pull the metal tongue across your body and clip it into the buckle. When the metal tongue is locked safely into place you will hear a 'click'. After fastening, settle the belt at the hip, and run your hand under the sash from hip to shoulder to ensure that the belt fits comfortably and is free from twists. Any extra belt length retracts automatically.

Ensure the lap section of the belt is also free from twists and fits firmly across your hips.

Note: For your safety, the lap section of the seat belt should be worn as low as possible on your hips, not on your waist or abdomen.

The 'emergency-locking retractor belt' allows you to move while the vehicle is travelling normally, but locks immediately on fast braking, impact with a solid object or any quick movement by the wearer.

To undo the belt, press the release button on the buckle and allow the belt to retract. Check that it fully retracts without twisting or turning.



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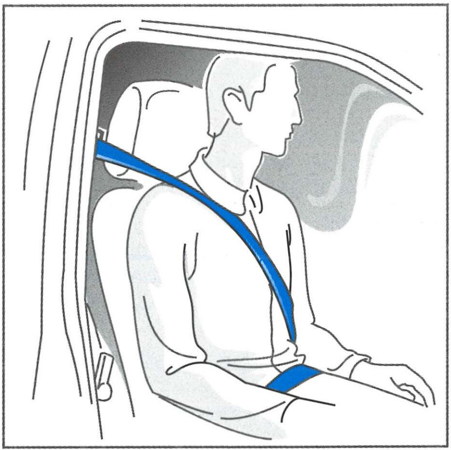
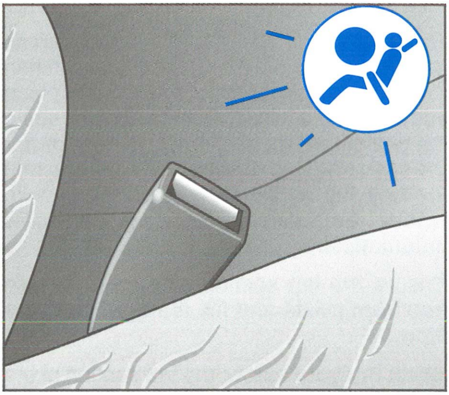


Z150R189

SEAT BELTS cont.

Seat belt pretensioners


Z150R191

The front seat belt system incorporates seat belt pretensioners. Seat belt pretensioners are part of the Supplemental Restraint System (SRS) and operate in conjunction with airbags (where fitted). In the event of a severe frontal collision the belt buckles are pulled downwards, instantly tightening both the diagonal and lap sections of the seat belt.

If the belt pretensioners have been activated, the SRS light on the instrument panel will not go out after the usual few seconds. This is designed to remind you that the pretension system has been used and therefore needs to be replaced by your Holden Dealer. The seat belts will remain operational, apart from this safety feature.

If the SRS light comes on at any other time, or if the warning 'SRS Airbag Fault' is displayed on the instrument panel, contact your Holden Dealer immediately to have the system checked. Refer to Chapter 1 for further information about warnings and reminder indications.

Australian law requires that the driver and all passengers are properly restrained at all times with the seat belts provided in the vehicle. Failure to do so could increase the chance of injury and / or the severity of injury in accidents.

WARNING:

- Seat belts are designed to bear upon the bony structure of the body, and should be worn low across the front of the pelvis or the pelvis, chest and shoulders, as applicable; wearing the lap section of the belt across the abdominal area must be avoided.
- Seat belts should be adjusted as firmly as possible, consistent with comfort, to provide the protection for which they have been designed. A slack belt will greatly reduce the protection afforded to the wearer.
- Take care to avoid contamination of the webbing with polishes, oil and chemicals, and particularly battery acid. Cleaning may safely be carried out using mild soap and water. The belt should be replaced if webbing becomes frayed, contaminated or damaged.
- It is essential to replace the entire assembly after it has been worn in a severe impact, even if damage to the assembly is not obvious.
- Belts should not be worn with straps twisted.
- Each seat belt assembly must only be used by one occupant; it is dangerous to put a belt around a child being carried on the occupant's lap.
- No modification or additions should be made by the user which will either prevent the seat belt adjusting devices from operating to remove slack, or prevent the seat belt assembly from being adjusted to remove slack.
- The positioning of the tongue restrictor must never interfere with, or stop, the belt from fully retracting.

WHICH TYPE OF CHILD RESTRAINT FOR YOUR CHILD?

Children should be restrained at all times and fitted with a child restraint appropriate to their size when travelling in a vehicle. Following are some guidelines about selecting the appropriate restraint for your child.

Infants

Rearward facing infant capsule		
Weight	**Height**	**Approx. Age**
Less than 9 kg	Less than 70 cm	Up to 6 mths

Designed so that in the event of a collision, impact forces will be evenly spread over the baby's back, with minimal jarring to the vulnerable head and neck area.

Young children

Forward facing child seat		
Weight	**Height**	**Approx. Age**
8 to 18 kg	70 to 100 cm	6 mths to 4 yrs

For use when the child is able to sit and easily hold his or her head upright. It is also possible to purchase convertible seats which can be used as a rearward facing infant restraint or converted to a forward facing child seat.

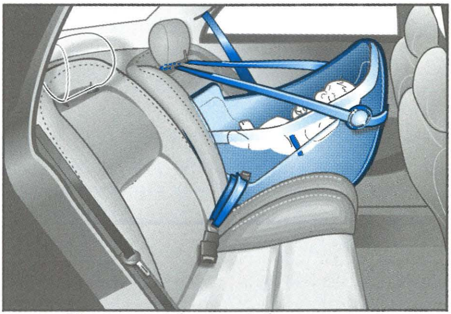
Booster seat with lap / sash seat belt		
Weight	**Height**	**Approx. Age**
–	More than 100 cm	4 to 10 yrs

When children outgrow a typical forward-facing child seat but they are still too small for lap / sash seat belts. A booster seat raises the child so that the knees bend comfortably, the lap / sash seat belt is correctly positioned and the child can see out the window. A rigid booster seat with a back, side wings and sash guide gives the best protection. In assessing the range of children who would benefit from booster seats, height is a better indicator than age or weight.

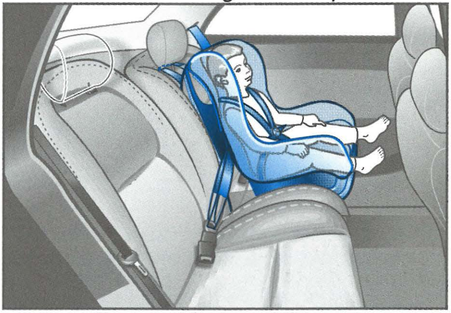
Older children

A child should use a normal lap / sash seat belt only when:

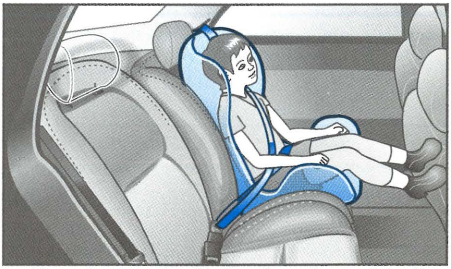
- he / she can sit against the back of the rear seat with knees bent comfortably at the edge of the seat,
- lap belt rests low and snug across the hips – not across the stomach,
- sash belt is centred on shoulder and chest,
- he / she is able to stay seated like this for the entire trip.



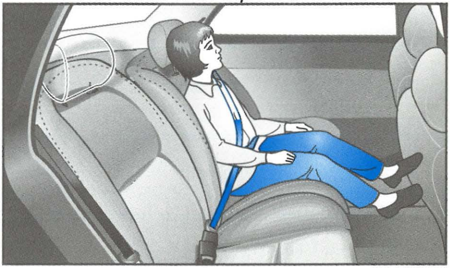
Rearward facing infant capsule



Forward facing child seat



Booster seat with lap / sash seat belt

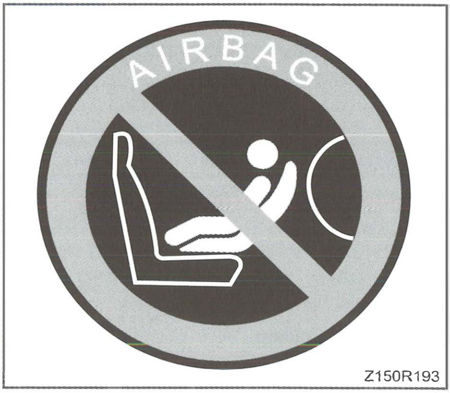


Adult lap / sash seat belt Z110R021

CHILD RESTRAINTS

WARNING – EXTREME HAZARD:

- Do not use a rearward facing child restraint on a seat protected by an airbag in front of it. The child could be seriously injured if the airbag inflates, as the child's head would be very close to the inflating airbag.
- NEVER install a child restraint in the front seat of a vehicle fitted with Side Impact Airbags (SIAB). Remember that it is safest for children to be seated in the rear seats.



Children should be restrained at all times when travelling in a vehicle.

Always ensure that the seat belt fits firmly around the child restraint. If a child cannot see out of the window, do not raise him / her by means of an ordinary cushion. It will not stay in place in a collision and the child can slip out of the straps and become entangled.

WARNING:

- Child restraint anchorages are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seat belts, harnesses or for attaching other items or equipment to the vehicle.
- Only child restraints that have clips to attach to the vehicle's anchorage fitting (as shown in the following illustrations) are to be used. Earlier types of child restraints may not attach securely to this type of anchor.
- Only Standards Australia approved child restraints and harnesses should be used. You should only purchase a child restraint which carries the appropriate Standards Australia sticker of approval.
- Where legally allowable, you may install a forward-facing child restraint in the front seat (without SIAB), but always move the passenger's seat as far back as it will go.

CHILD RESTRAINTS cont.

Anchorage points

Utility: The vehicle is fitted with an anchorage point for a child restraint. This anchor fitting has been provided behind the passenger's seat, as illustrated.

Pull the cover up at the front to access the anchor fitting for a child restraint.

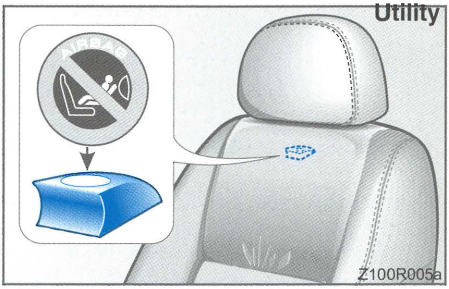
Note: Depending upon state law, it may be illegal to fit child restraints in the front seat of the vehicle.

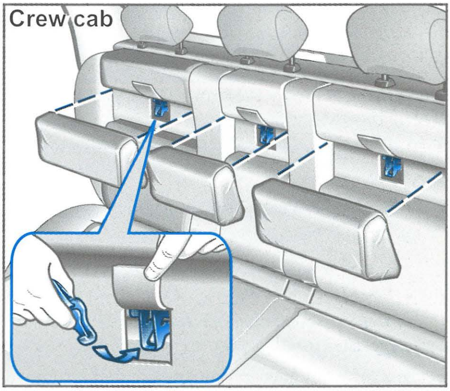
Crew cab: The vehicle is fitted with three child anchorage points with permanent anchor fittings behind the rear seat, as shown in the following illustrations.

To access an anchor fitting:

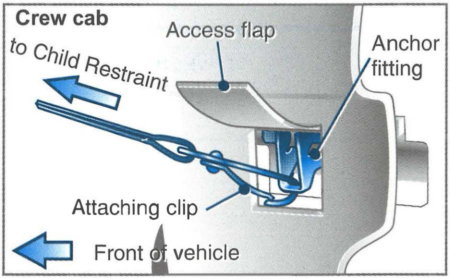
- Remove the seatback insert from the desired position.
- Store the seatback insert in a safe place such as the storage tray under the rear seat.
- Lift the flap covering the anchor fitting.
- Attach the child restraint clip to the anchor fitting, as shown.

Note: Depending upon state law, it may be illegal to fit child restraints in the front seat of the vehicle.


Utility
AIRBAG
Z100R005a



Z120R003

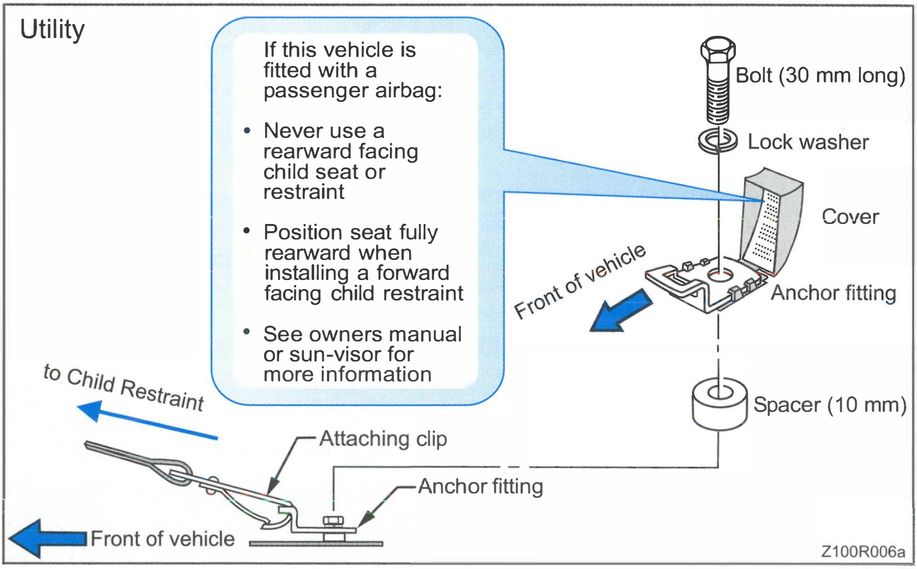

Crew cab
to Child Restraint
Access flap
Anchor fitting
Attaching clip
Front of vehicle

Z120R004

CHILD RESTRAINTS cont.

Anchor fitting (utility)

The following illustrations show how the anchorage fitting was fitted on the vehicle, in case it may have been removed. Ensure that the bolts are securely tightened to between 15 and 25 Nm (Newton metres). Check with your Holden Dealer if unsure.



If this vehicle is fitted with a passenger airbag:

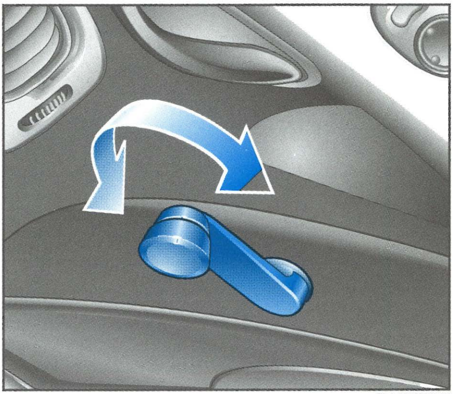
- Never use a rearward facing child seat or restraint
- Position seat fully rearward when installing a forward facing child restraint
- See owners manual or sun-visor for more information

Utility
Bolt (30 mm long)
Lock washer
Cover
Front of vehicle
Anchor fitting
Spacer (10 mm)
to Child Restraint
Attaching clip
Anchor fitting
Front of vehicle
Z100R006a

WINDOWS

Manual windows ✻

Turn the winders on each door to raise or lower the window.



Z150R291

Power windows

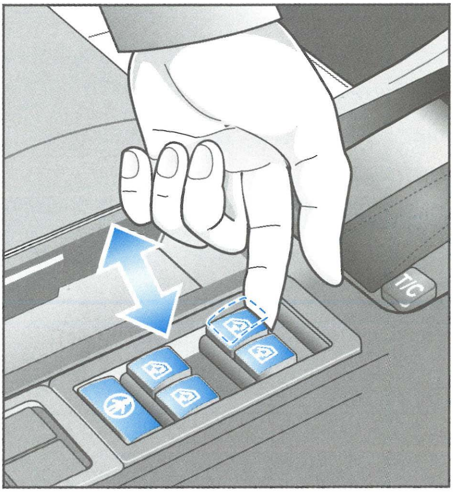
The main window switches are located between the front seats.

The switches are operational when the ignition is turned on or the UNLOCK button on the key is pressed.

The switches also remain operational when the ignition is turned off for 60 minutes while the doors remain closed and for 45 seconds after a door is opened.

Note: Green lights in the switches indicate when they are active.

To raise the window, pull up the switch; to lower, push down the switch.



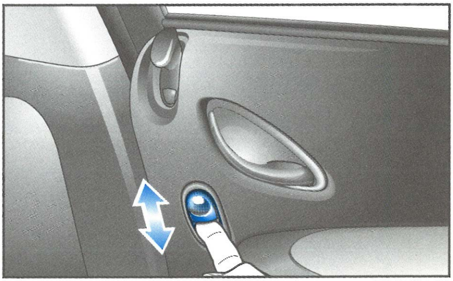
Z150R290

Crew cab: Rear power windows ✻ can also be operated by individual switches located on the rear doors.

These rear door switches can be deactivated / reactivated by pressing the 'child safety' switch in the centre console. The rear window switches are deactivated when the switch is in the down position.

Auto down – front windows only:
Hold the switch down for more than half a second and then release. To interrupt the 'auto down' operation, move the switch up or down again.

Rock the down button to open the window in short steps.



Z130R019

Time delay:
The windows can be operated for about one hour after turning off the ignition or pressing UNLOCK on the vehicle key, provided all the doors are kept shut. Once a door is opened, the windows can only be operated for 45 seconds. The green 'active' light in the switches will go off when the time delay finishes.

Pressing LOCK on the vehicle key disables the windows immediately.

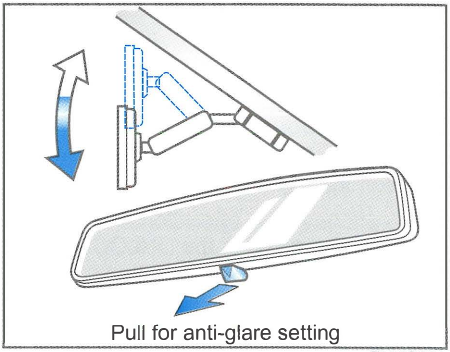
MIRRORS

Internal rear view mirror

Moving the lever on the lower edge of the mirror reduces headlight glare from following vehicles when driving at night.

During daylight driving, the lever should be set forward, away from the driver. At night, flick the lever towards the driver.

Note: Rear view clarity is reduced when the mirror is set to the 'night' position.



Z150R204

Exterior rear view mirror

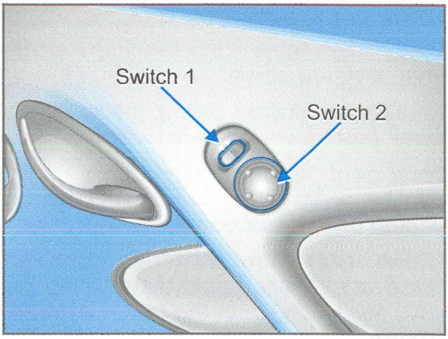
Adjust the mirror angle by using the switches on the driver's door armrest, when the ignition is turned on.

Rock Switch 1 to left mirror, or right mirror.

Press the dot on the edge of Switch 2 in the direction you wish the mirror to move. The mirror can move up, down, left or right.

WARNING:

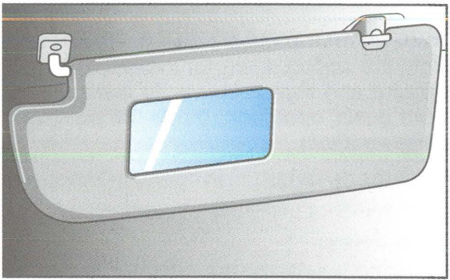
The passenger's mirror is convex shaped, to provide a wider view. Objects seen in this mirror will appear further away than they actually are.



Z150R205

Vanity mirror

A vanity mirror is provided on the passenger's sunvisor.

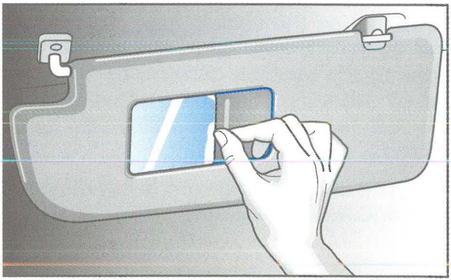


Z150R206

Vanity mirror with cover ✻

On some models, a vanity mirror with a cover is provided on the driver's sunvisor.

Slide the cover to the right to view the mirror.



Z150R207

INTERIOR LIGHTS

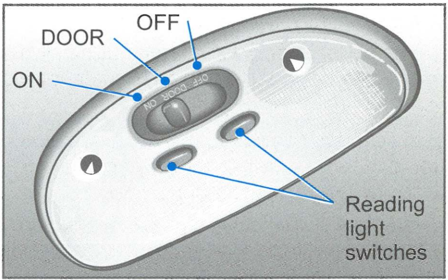
Interior (dome) light

The interior light is located either in the centre of the roof (utility) or in the front roof console (crew cab). The interior light can be switched to any of the following positions:

- **ON** (always on)
- **DOOR** (door activated)
- **OFF** O (always off)

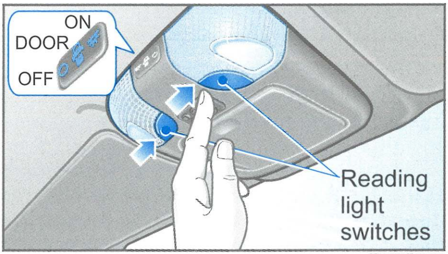
Notes on the door position:

- The light automatically switches on when a door is opened and switches off 30 seconds after all doors are closed. Switching the ignition on turns the light off immediately (unless a door remains open).
- Door is the centre position for the switch.
- For your convenience, the interior light can be set at the instrument panel to remain illuminated for a period of zero to 255 seconds after the ignition has been turned off. Refer to Chapter 1, 'Options Menu' for details about this setting.



Z150R209

Centre dome light



Z150R210

Roof console light

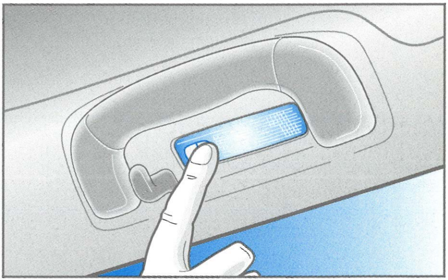
Note: The operation of interior lights is also affected by the Battery Saver and Accessory Control features. Refer further on in this chapter for details.

Front reading lights ✻

Front reading lights are incorporated in the dome light assembly, as shown. Press the individual switches to turn the reading lights off or on, as required.

Rear reading lights (crew cab ✻)

The rear reading lights (above the rear doors) may be individually turned to OFF, ON or to DOOR. If DOOR is selected, then they operate in the same way as the dome light.



Z150R211

ACCESSORY CONTROL

The vehicle is equipped with an accessory control feature that can be set at the instrument panel to shut down all accessories (radio, power socket, wipers, for example) either when the ignition key is turned Off, or when the driver's door is opened. Refer to Chapter 1, 'Options Menu' for details about this setting.

A one hour timer will also shut down accessories (radio, power socket, wipers, for example) where the accessory control feature has been set to 'Door Open' or after an accessory has been turned on manually once the ignition is Off. For example, if accessory control is set to 'Door Open', and the radio is on, the radio will continue to operate until such time as the driver's door is opened. However, if the door is not opened, the radio (and other operating accessories) will be shut down automatically one hour after the ignition is turned Off.

Note that operating accessories will not be turned off immediately when your vehicle is locked using either the remote locking device or the driver's door key. Accessories are only subject to manual operation, accessory control settings and the one hour shut down timer.

If you want the accessories to continue operating once an automatic shutdown has occurred, you must 'wake up' the system by either manually starting an accessory (for example, turning the radio on again), or by turning the ignition to On and then Off again (if accessory control is set to 'Door Open'). These actions will reset the timer to zero. Likewise, if an accessory such as the radio is turned on at any time during the one hour period, the timer is reset to zero and all accessories will continue to operate for a further hour.

Please note that once an automatic shutdown has been activated (for example the ignition turned Off or door opened), the accessory control setting will no longer be active (that is, accessories will not be switched off by opening the driver door even if accessory control is set to 'Door Open'). To enable accessory control after the system has been reset, you must turn the ignition On and then Off again.

Note: The one hour shutdown timer only operates if the key is in the lock position (turned off). The timer is not active if the key remains in the accessories or on positions.

BATTERY SAVER

A battery saver feature has also been built into the vehicle to ensure that all internal lights (for example dome, ignition and glovebox) will switch off automatically after one hour to discourage depletion of your battery.

The battery saver will activate when there have been no lights or accessories turned on for one hour after the ignition has been switched Off.

Once the interior lighting system has been shut down by the one hour battery saver, it can be 'woken up' by a number of actions, such as turning the ignition on or unlocking the vehicle, for example. Once the system is awake, the one hour battery saver time resets to zero and interior lights will continue to operate for a further hour, or until the vehicle is locked.

The interior lighting system will shut down 10 seconds after the vehicle is locked using either the remote locking device or the driver door key. However, if an interior light (such as the dome light) has been turned on manually and is illuminated at the time the vehicle is locked, the lighting system will not shut down after the usual 10 seconds; the one hour battery saver will be activated instead.

Note: Hazard lights are not subject to either the accessory control or battery saving devices. They will continue to operate outside the one hour timed shutdown that applies to other interior lights and accessories, and also in all ignition key positions (On, Accessories and Lock).

GLOVEBOX AND CENTRE CONSOLE

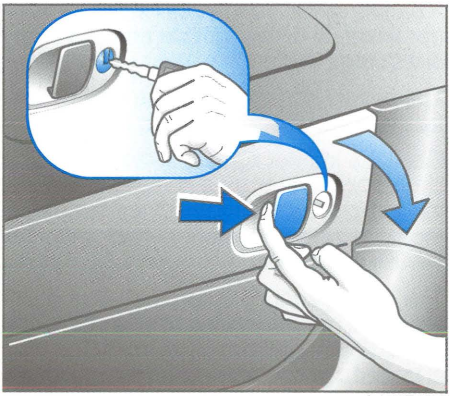
Glovebox

The glovebox, is located in the dashboard directly in front of the passenger seat.

A specific key is provided solely to lock and unlock the glovebox. For security, the master key is not designed to operate the glovebox lock. Refer to Chapter 2 for more information.

To lock, insert the glovebox key, turn it clockwise and then withdraw. To unlock, insert the glovebox key and turn it anticlockwise.

To open the glovebox, pull the left side of the catch towards you. To close, push the lid firmly back into place.



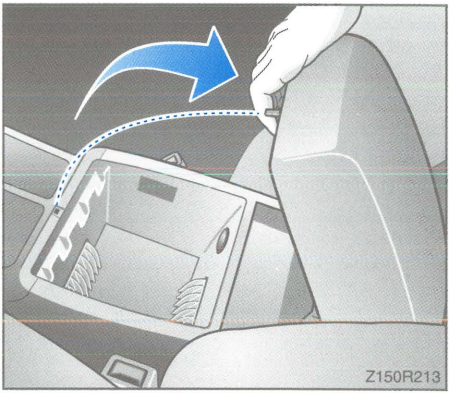
L150R198

Centre console

The front armrest opens into a storage area. To open, press the latch ✻ on the underside of the front lip and lift the lid to a near vertical position.

Note: The console lid should not be forced further backwards.

The rubber lining inside the console has been designed to hold CDs, coins and a pen. It also provides space to accommodate a standard mobile telephone / charger which may be plugged into the power socket located inside the console. Refer to 'Power socket' further on in this chapter for details.

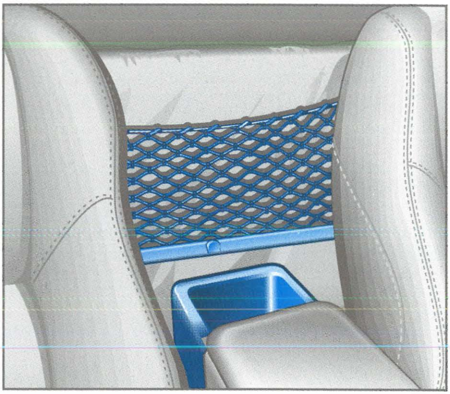


Storage bin (utility)

For the storage of small items there is a storage bin provided at the rear of the centre console.

WARNING:

For safety reasons, do not leave articles or luggage (particularly heavy, sharp or hard objects) loose in the passenger compartment or behind the headrests. These articles should be placed in the glovebox, on the floor, in the storage net or in the rear cargo area, firmly secured (wherever possible).



Z140R015

Storage net (utility)

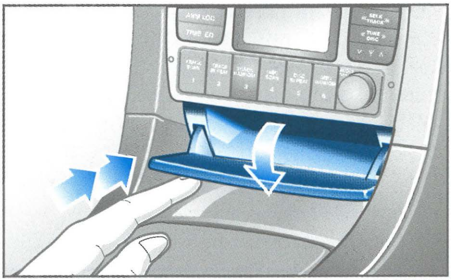
For the storage of various small items there is a storage net attached to the back panel trim.

STORAGE COMPARTMENTS

Front and rear storage compartments ✽

The vehicle may come with both front and rear storage compartments.

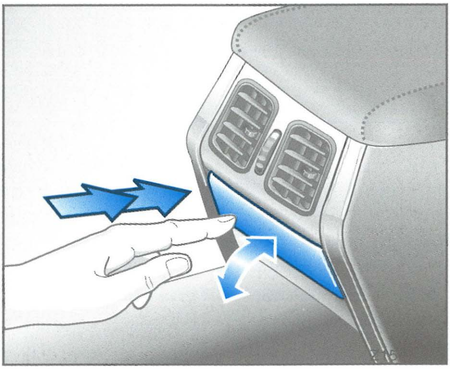
The front storage compartment is beneath the radio system and is fitted with a 'push-push' cover.



Z150R293

The rear storage compartment is at the rear of the centre console. It is also fitted with a 'push-push' cover.

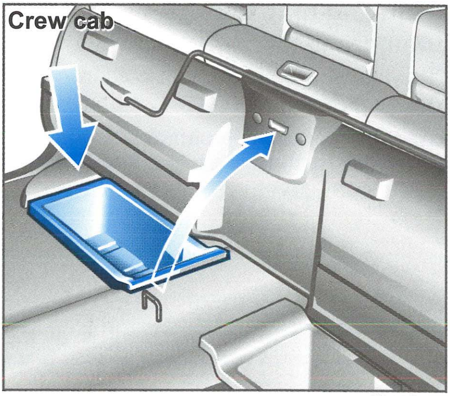
The storage compartments can be replaced, if required, by an ashtray assembly. Refer to 'Ashtray' further on in this chapter.



STORAGE COMPARTMENTS cont.

Storage tray (crew cab)

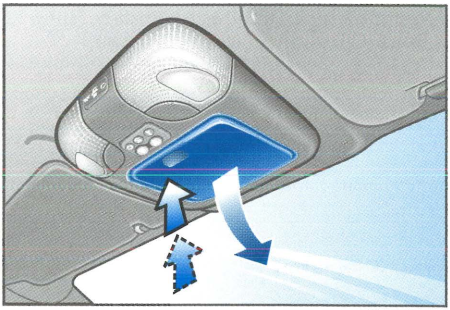
There is a storage tray located under the rear seat cushion, on the right-hand side. To access the storage tray, refer to 'Lifting the rear seat cushion' previously in this chapter.



Z120R012

Sunglasses holder ✻

The sunglasses holder is located centre-front of the roof's interior. It is designed to accommodate one pair of sunglasses and uses a push-push mechanism for opening and closing. Push once on the surface of the cover to open the sunglasses holder, then push once again to close it.



Z150R214

ASHTRAY, LIGHTER AND POWER SOCKET

Ashtray and lighter option

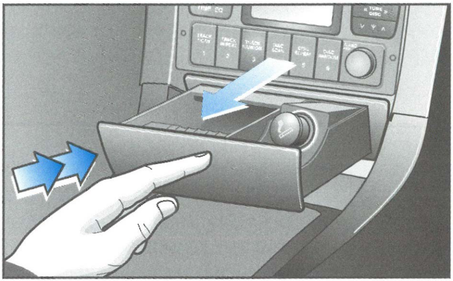
If required, the vehicle can be fitted with an ashtray and lighter instead of front and / or rear storage compartments.

Your Holden Dealer can order and fit the ashtray and lighter for you.

Ashtray ✻

The ashtray is fitted with a 'push-push' cover. To use the ashtray, push the cover inwards and the ashtray will simply slide open.

The ashtray may be removed for cleaning. To do this, open the ashtray and then grip the receptacle at the finger depressions located on each side. Then simply pull the receptacle out.



Z150R215

Cigarette lighter ✻

The cigarette lighter is housed inside the ashtray assembly and can be operated whenever the ignition is turned to On.

Press in the lighter knob; when the element is hot, the lighter automatically pops up and is ready for use.

Note: The cigarette lighter should not be used as a power socket. Use the power socket provided inside the centre console.

Power socket

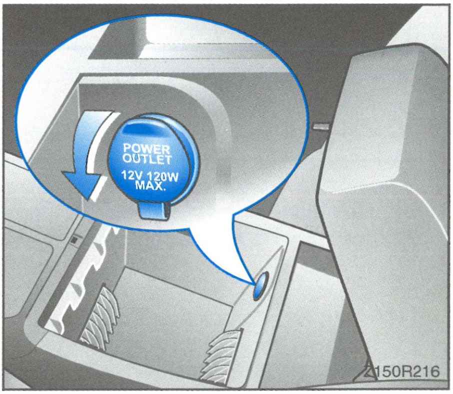
All vehicles have a power socket located inside the centre console.

The power socket is operational when the ignition is turned to either On or Accessories.

Note: Any accessory device (mobile phone, car fridge, for example) connected to the power socket must not exceed a current draw of 10 amps.

WARNING:

It is dangerous for the driver of a vehicle to attach or remove accessories from the power socket whilst driving. It may distract the driver's attention, putting the occupants of the vehicle and other road users at risk.



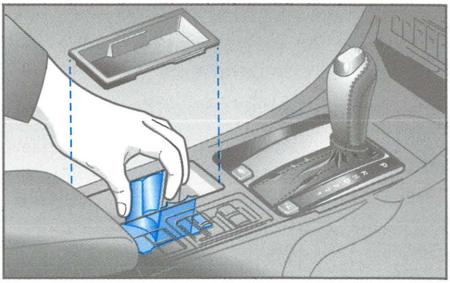
Z150R216

CUP HOLDERS ✻

Front cup holders – centre ✻

The centre cup holders are located forward of the centre console. The cup holder bin may be covered by a telephone storage tray ✻ which is removable to allow access to the cup holders.

The rubber cup holder lining can be removed for cleaning by grasping the centre point of the lining and pulling it upwards.



Z150R320

Front cup holders – dashboard ✻

Depending on the option pack fitted to the vehicle, cup holders are fitted in the dashboard, on either side of the radio.

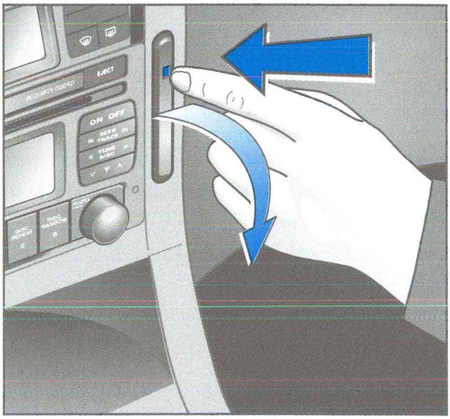
To open, push once on the surface of the cup holder mechanism as shown.

To close, gently raise the cup holder from beneath its base and push it back into the stowed position as shown.

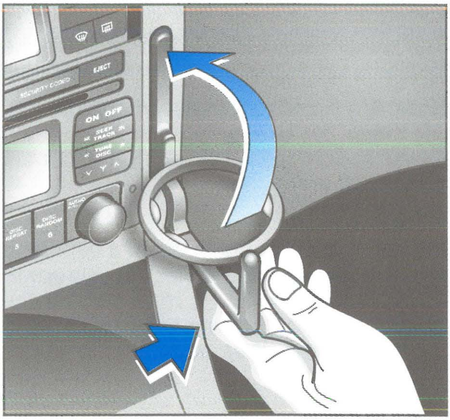
Note: The circular rim of the cup holder rotates automatically to the open (horizontal) or closed (vertical) positions, as required.

WARNING:

- Do not forget full cups when accelerating and braking! To avoid spillage, it is recommended that any cups placed in the holders have lids.
- Cup holders are designed for holding standard size soft drink cans and smaller size bottles. Larger drink bottles or cups should not be forced into the cup holders, or they may become jammed.


EJECT
SECURITY CODED
ON OFF
SEEK TRACK
TUNE DISC
DISC REPEAT
DISC RANDOM
AUDIO

Z150R217

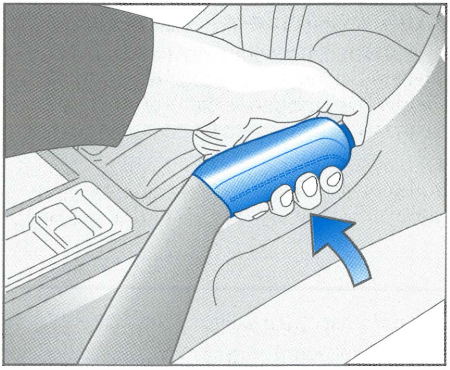

EJECT
SECURITY CODED
ON OFF
SEEK TRACK
TUNE DISC
DISC REPEAT
DISC RANDOM
AUDIO

Z150R218

PARK BRAKE, FOOTREST AND ASSIST GRIPS

Park brake

The park brake lever is located between the front seats.



Z150R296

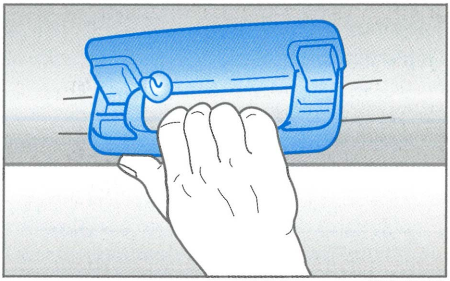
- To apply, pull the lever straight up, without pressing the release button. To release, pull the lever slightly upwards, push in the release button on the end of the lever and whilst pressed, lower the lever all the way down.
- When the ignition switch is turned to On, a symbol on the instrument panel indicates that the park brake is applied.
- Never drive the vehicle with the park brake applied.
- If you attempt to drive off without releasing the park brake, a warning chime sounds.

Footrest

The footrest for the driver's left foot is adjustable to three positions. First remove the caps and undo the two screws on the right hand side of the footrest. Move the footrest forward or backward as required, then replace the screws and caps. Contact your Holden Dealer for assistance with this adjustment if necessary.

Assist grips

Assist grips are provided above the doors. When released, they spring back into their stow position against the roof.

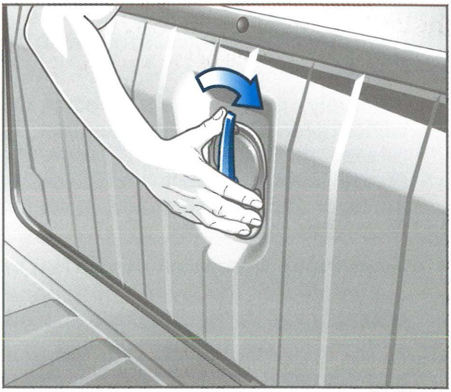


Z150R220

REAR TRAY / TAILGATE LATCHES

To lower

Reach inside, at the middle of the tailgate and move the lever to the left.



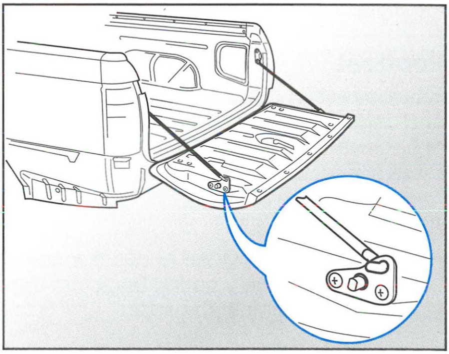
Z140R016

The tailgate support cable can be disconnected, if required.

WARNING:

Not recommended for crew cab vehicles as the tailgate will foul with the rear fascia causing damage to the tailgate and / or the rear fascia.

However, when reconnecting the cable, ensure that each hook is pointing outwards as shown.



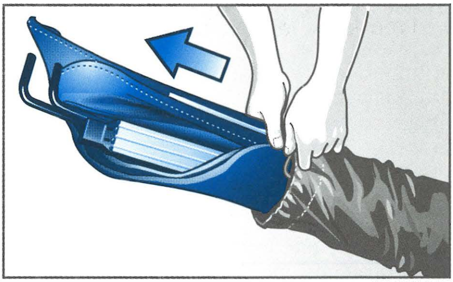
To close

Lift up the tailgate and push firmly back into place.

TONNEAU COVER

Installing the tonneau cover

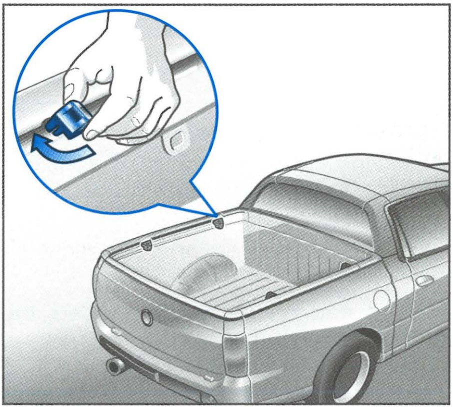
Remove the contents of the tonneau cover bag.



Z140R017

Installing bows

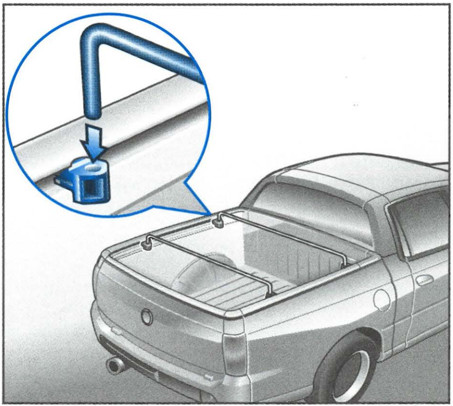
Your vehicle is supplied with two bows and four bow attachments. Bow attachments will normally remain on the vehicle. However, if the bow attachments have been removed, they can be reinstalled by tilting and clipping into place as shown. There are notches in the upper rails to assist you with correct placement of the bow attachments.



Z120R016

The front and rear bows are different lengths; the front bow being the longer of the two.

Slide each bow though the holes provided in the bow attachments, as shown.



Z120R017

TONNEAU COVER cont.

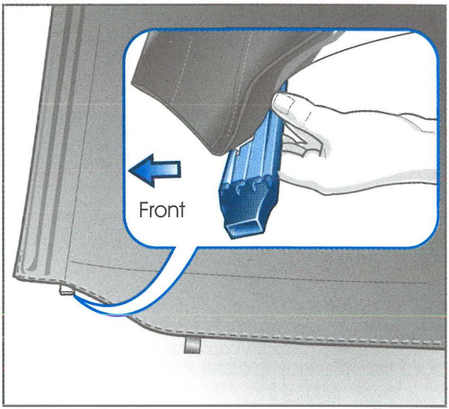
Fitting tonneau cover to front bar

Normally, the front bar would remain attached to the tonneau cover. However, if the bar has been removed, it will need to be attached before the tonneau cover is fitted to the vehicle.

Lay the tonneau cover flat to identify the front edge, which is cut away, as shown.

Thread the bar through one of the three slots provided along the front edge of the tonneau cover.

Note: When the tonneau cover is new the centre slot should be used. As the tonneau cover ages the other slots may be used to achieve a tighter or looser fit, as required.



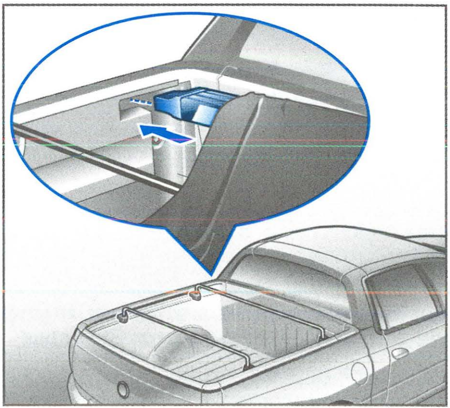
Z120R018

Fitting tonneau cover to your vehicle

Place the tonneau cover roughly in position over the tray. First, the bar should be fitted into the slots at the front.

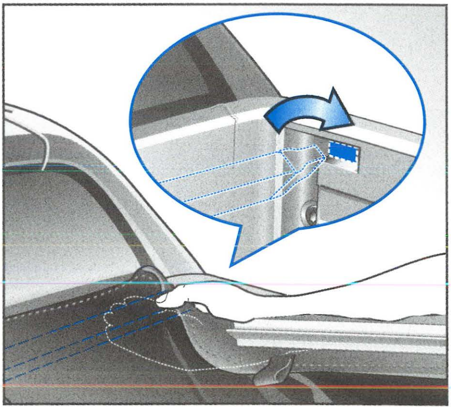
Fold the tonneau cover magnetic strip backwards.

Fit one end of the bar into either the left-hand or right-hand slot.



Z120R019

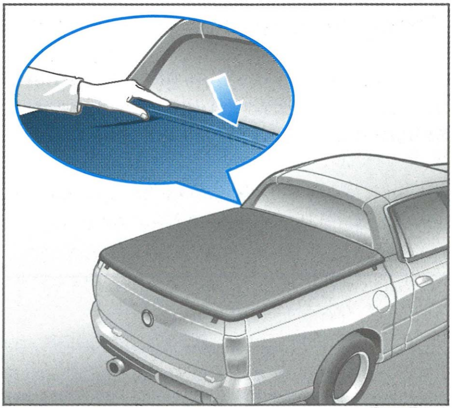
Then, from underneath the tonneau cover, move the other end of the bar into the opposite slot by tilting up and pulling it into place.



Z170R044

TONNEAU COVER cont.

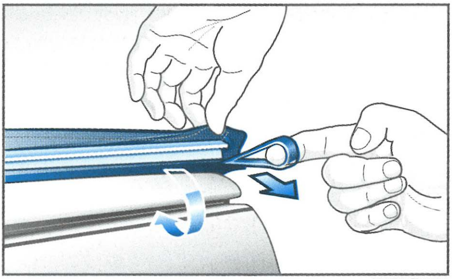
Fold the magnetic strip forwards.



Z120R021

Lay the tonneau cover over the bows.

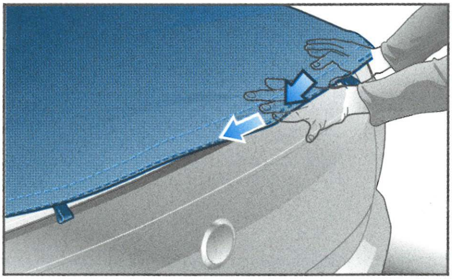
Starting from the rear, use the finger loops to pull the tonneau cover plastic strip over the slot provided in the vehicle.



Z170R046

Push down with your hand to smooth the rear strip into place along the slot.

After the tonneau cover is attached at the rear, the same attachment method is used on both sides.



Z170R047

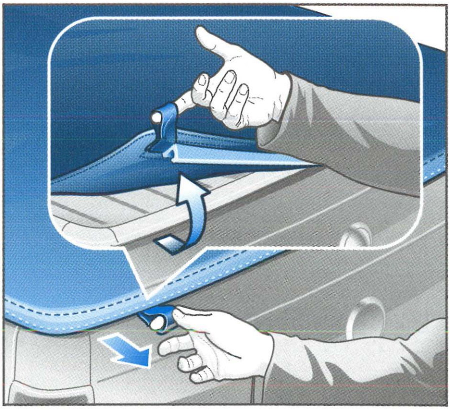
TONNEAU COVER cont.

Removing tonneau cover

Using the finger loops provided, remove the tonneau cover as shown.

The bows can then be removed by pulling straight up.

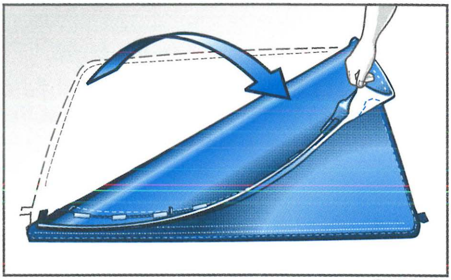
For your convenience the bows and tonneau cover can be folded and stored in the bag provided.



Folding

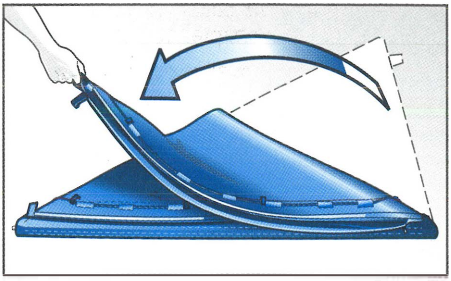
Lay the tonneau cover flat, top side up.

Fold the bottom corner up to form a triangle.



Z170R049

Fold the other bottom corner up to form a smaller triangle.

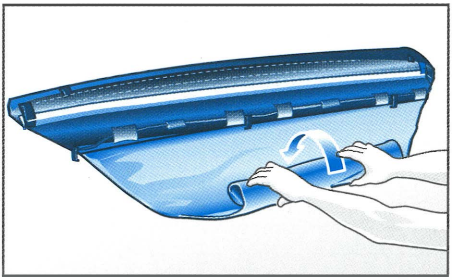


Z170R050

TONNEAU COVER cont.

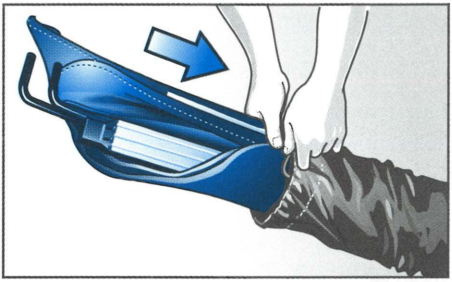
Roll up the tonneau cover, starting from the point of the triangle.

Note: Folding and rolling in this way ensures that the plastic sides are not bent.



Z170R051

Place the folded tonneau cover and bows in the bag provided.



Z140R018

Fitting tonneau cover with high loads

The tonneau cover can be adjusted for higher loads.

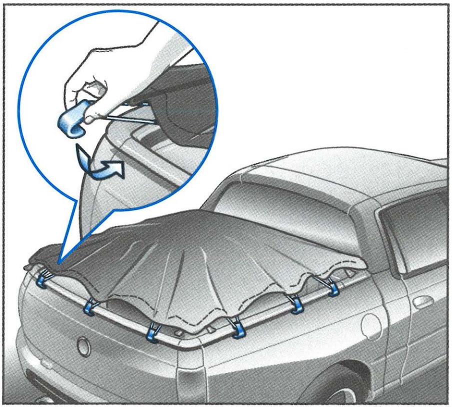
Remove the two bows if required.

Attach the front of the tonneau cover. Refer to 'Fitting tonneau cover to your vehicle' previously in this chapter for details.

Lay the tonneau cover roughly in position.

Underneath the tonneau cover there is a cord with attaching clips. Working around the vehicle, place the clips in the slots, as shown.

When removing the tonneau cover, the clips can be removed by pulling them upwards.



Z170R053

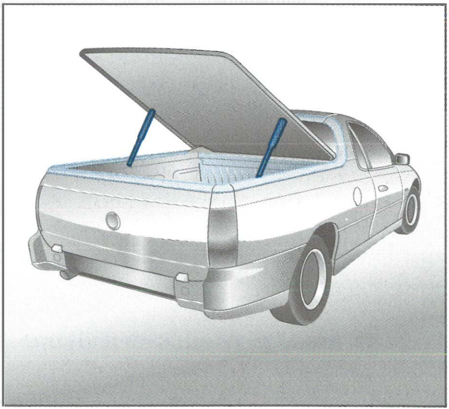
HARD TONNEAU COVER ✽

Locking and Unlocking

To lock the tonneau, lower it to its closed position. Insert the key into the lock and while applying slight downwards pressure near the lock, turn the key clockwise. Repeat on both sides.

To unlock the tonneau, again apply slight downwards pressure near the lock and turn the key counterclockwise. Repeat on both sides.

Note: For both safety and security ensure the tonneau is locked when leaving vehicle unattended and whilst driving.



ZTHR002

Removal of Tonneau

To remove the tonneau from Utility:

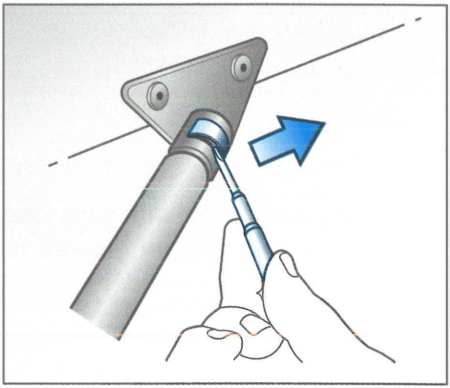
1. Open the tonneau cover.
2. With the aid of an assistant, remove the retaining clip from the top of each gas strut where they are attached to the tonneau. This allows the struts to be removed easily from the upper ball pin - do not remove the struts from ball pins yet. Store the retaining clips in a safe place.
3. While an assistant holds the tonneau, remove the retaining pins from each of the two front hinges. Store the pins in a safe place.
4. Remove both gas struts from the upper ball pins attached to the tonneau.

Note: Take care in strong winds.

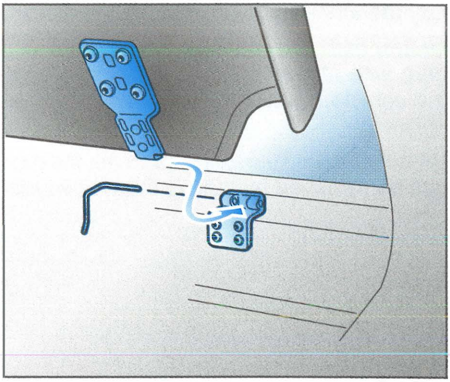
5. Lift the tonneau away towards the rear of the vehicle.

Note: Take care not to damage the hard tonneau or the vehicle.

6. Store the tonneau carefully in a secure location and in an upright position resting on the hinges so as to not damage the tonneau.



ZTHR003



ZTHR004

Refit of Tonneau

To refit the tonneau, reverse the removal procedure.

HARD TONNEAU COVER ✻ cont.

Removal of Tonneau

To remove the tonneau from Crewman:

1. Open the tonneau cover.
2. With the aid of an assistant, remove the retaining clip from the top of each gas strut where they are attached to the tonneau. This allows the struts to be removed easily from the upper ball pin - do not remove the struts from ball pins yet. Store the retaining clips in a safe place.
3. Remove both gas struts from the upper ball pins attached to the tonneau.
4. With the aid of an assistant raise the rear to approximately 90°. At this point, the hinge tongues are able to be separated from the hinge slots.

Note: Take care in strong winds.

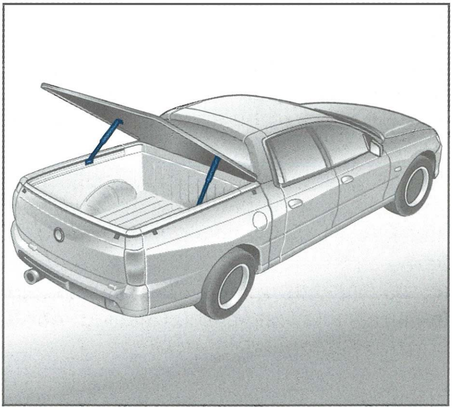
5. Lift the tonneau away towards the rear of the vehicle.

Note: Take care not to damage the hard tonneau or the vehicle.

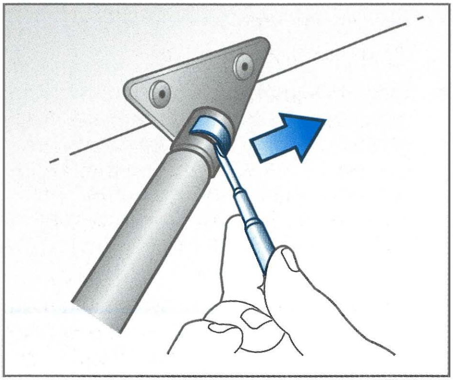
6. Store the tonneau carefully in a secure location and in an upright position resting on the hings so as to not damage the tonneau.

Refit of Tonneau

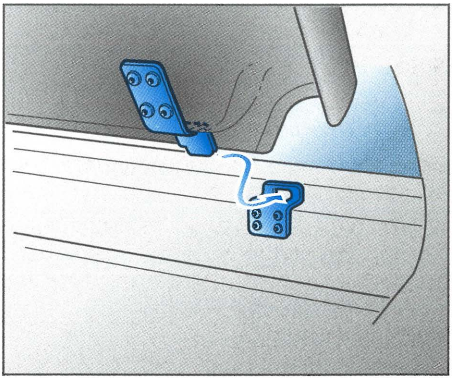
To refit the tonneau, reverse the removal procedure.



ZTHR001



ZTHR003

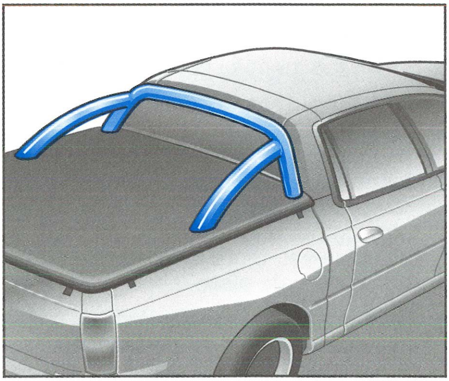


ZTHR005

SPORTS BAR ✻

Sports bar ✻

Note: The sports bar is an appearance item only. It does not provide additional protection in an accident and should not be used as a tie down point for loads.



Z170R054

CHAPTER 4

Driving

Page
4-2 Safety
4-3 Engine starting
4-4 Automatic transmission
4-8 Manual transmission
4-9 Anti-lock brake system
4-10 Driving precautions
4-12 Add on equipment

✻ The asterisk signifies equipment options not in all vehicles (model variants, engine options, optional equipment and Genuine Holden Parts and Accessories).

SAFETY

Before entering the vehicle

1. Check that windows, mirrors and lights are clean.
2. Visually check tyre inflation.

   Note: It is recommended that the tyre pressures are checked with a pressure gauge each week.

Before driving off

1. Ensure that all doors are closed and secured.
2. Position your seat for comfortable driving.
3. Adjust rear vision mirrors.
4. FASTEN SEAT BELTS.
5. Check that all the warning indicators light up when you turn the key to start the engine. Refer to Chapter 1.

Parking

1. Apply the park brake.
2. *Automatic transmission:* Place in P (park).

   Manual transmission: If pointing uphill or on flat ground place in First gear.
   If pointing downhill, place in Reverse gear.
3. Shut all windows.
4. Turn ignition key to the Lock position and remove the key.
5. Lock all doors by pressing the LOCK button on the key (once to lock, twice to deadlock) when outside the vehicle. Refer to Chapter 2.

Note: The engine fan may keep going for several minutes after the ignition has been turned off. This is normal.

WARNING:

Be careful where you park or drive. As with any vehicle, do not park or operate this vehicle in areas where combustible materials such as dry grass or leaves can come in contact with a hot exhaust system.

Never leave the engine running in an enclosed space such as a closed garage or underground car park.

ENGINE STARTING

1. Ensure that the park brake is firmly applied and release it only after you have started the engine and are ready to drive off.
2. *Manual:* Fully depress the clutch pedal to the floor, shift the gear lever to the Neutral position then crank the engine. The clutch pedal can now be released.

   Automatic: Move the transmission gear selector to P (park) or N (neutral) position. The engine will not start if the transmission gear selector is in any other position.
3. For cold or hot starting:

   The key should only be turned to the Start position momentarily and then released, as the engine starts automatically. The key automatically returns to the On position when released.

   Note:

   - On manual vehicles, the clutch must be depressed while turning the key or the vehicle cannot be started.
   - Keep your foot off the accelerator pedal prior to and during starting.
   - Pressing the accelerator pedal will only increase cranking time and will not help the engine to start.
   - Do not subject the engine to high load conditions such as full throttle acceleration or high speeds until it has completely warmed up otherwise you may cause premature engine wear or engine damage.

Engine will not crank or start

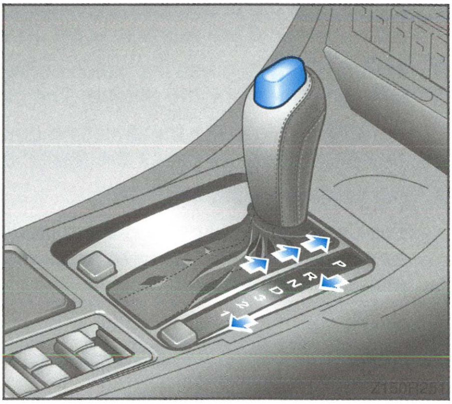
- Press and release the UNLOCK button on the key and try starting the engine again.
- Never press the key buttons while cranking the engine.
- Remove the key from the ignition, insert the key and try starting the engine again.

Note: If the 'Immobiliser Fault' animation illuminates while attempting to start the vehicle, a fault in the vehicle's immobiliser module is indicated. The vehicle will not start with an immobiliser fault. Contact your Holden Dealer to have the fault rectified.

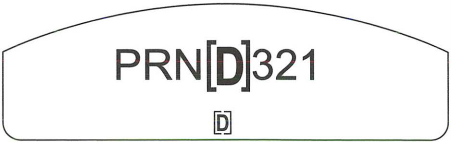
AUTOMATIC TRANSMISSION ✻

Floor mounted shift

Press the select button on top of the transmission gear selector lever to shift into any position indicated by the blue arrows.



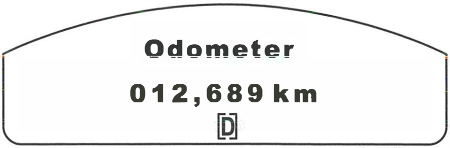
When the position of the transmission gear selector is changed, a large animation illuminates on the instrument panel centre display above the constantly illuminated smaller icon at the bottom middle of the display.



Z150R027

The brackets around the gear letter on the large animation move according to what gear is selected on the transmission gear selector. The gear letter within the brackets is also magnified when selected. The gear letter on the smaller icon changes in conjunction with the large animation.

The large animation appears for 2 seconds after the gear is selected and then extinguishes. The smaller icon in the bottom middle of the display remains illuminated indicating the gear selected.



Z150R007

Note: If any warnings are active on the display, the large animation will not be shown and only the bracketed smaller icon at the bottom middle of the display changes when the transmission gear selector is moved.

WARNING:

- Do not press the accelerator pedal with the brakes on in any gear except P (park) or N (neutral). This will overheat the transmission.
- Do not use the accelerator pedal to hold the vehicle on a slope. Use the brakes.
- Do not coast the vehicle in N (neutral) – this lessens your control and you may need to accelerate quickly in an emergency.

Note:

- Refer to Chapter 7 when checking automatic transmission fluid level.
- The engine will not start unless the selector is in P (park) or N (neutral).

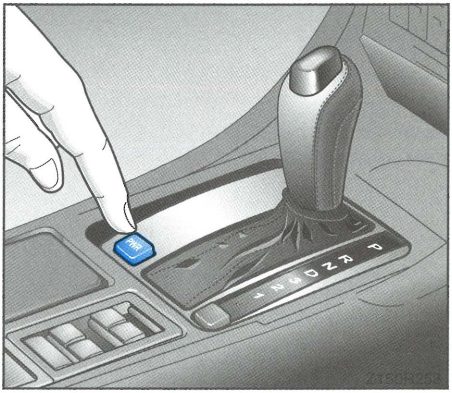
AUTOMATIC TRANSMISSION ✱ cont.

Modes of operation

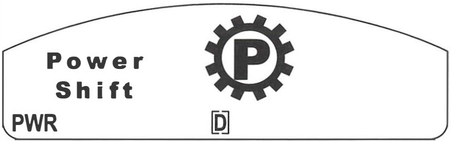
The transmission operates in following modes:

- **Power** shift mode has revised automatic transmission shift points, to provide the vehicle a more responsive feel.
- **Normal** shift mode is recommended for normal or freeway driving, as it provides better fuel economy.
- **Cruise** shift mode (if cruise control is fitted) is active when the cruise control is maintaining the vehicle speed. The transmission overrides the Power / Normal selection and operates in cruise shift mode, providing optimum driveability. Cruise shift mode is neither a Power or Normal shift pattern, therefore the PWR icon extinguishes when the cruise control is maintaining vehicle speed.

The PWR button is located on the passenger's side of the centre console, next to the transmission gear selector. Press the PWR button to place the transmission in Power shift mode. Press the PWR button again to select Normal shift mode.

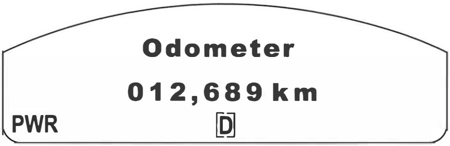


The 'Power Shift' animated symbol and small PWR icon displays when Power shift mode is selected.



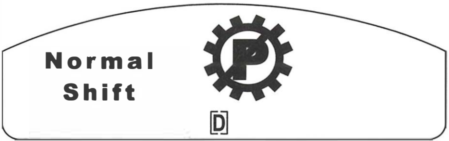
Z150R052

After 2 seconds the animated symbol reverts to the original trip computer display with a small PWR icon on the left.



Z150R250

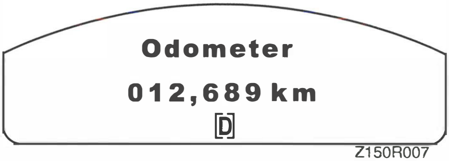
When Normal shift mode is selected (Power shift mode off), the PWR icon extinguishes immediately and the 'Normal Shift' animation displays.



Z150R028

AUTOMATIC TRANSMISSION ✽ cont.

After 2 seconds the animated symbol reverts to the original trip computer display.



Z150R007

Downshifting

The transmission will downshift to a lower gear depending on the vehicle's speed and the throttle pedal position applied by the driver. For example, if full throttle is applied the transmission will downshift to a lower gear for maximum acceleration.

AUTOMATIC TRANSMISSION ✽ cont.

P (park)	This prevents the rear wheels from turning and so should be selected (together with the park brake) when leaving the vehicle. Never select P while the vehicle is still moving. The engine can be started in this position.
R (reverse)	Never select R while the vehicle is still moving. Reverse lights will illuminate when R is selected and the ignition is on. After reversing, make sure the vehicle has fully stopped before selecting another gear position. After selecting R, pause for a moment before accelerating, to allow the transmission to 'engage' reverse gear.
N (neutral)	This is the out-of-gear position. You may then start a stalled engine while the vehicle is still moving or stopped.
D (drive)	This gear is most effective for normal or freeway driving. The drive position gives maximum fuel efficiency, as the transmission can choose the appropriate gear (1 through to 4) for the existing load and driving conditions. After selecting D from P or N, pause for a moment before accelerating, to allow the transmission to 'engage' the forward gear. Use this position, together with the PWR mode when towing.
3 (third)	Third gear is most effective when overtaking and gives responsive acceleration and deceleration, especially in hilly areas. This position allows the transmission to shift between first, second and third gear as conditions require. Drive (4th gear) is excluded.
2 (second)	Use this position when going down a moderate gradient where you want to slow down a little with minimal use of the brakes. The transmission shifts to first or second gear as required. Move the lever back into the drive position to return to normal driving.
1 (first)	Use this position when strong braking effect is needed on a steep gradient, below 60 km/h. Even though the transmission gear selector may be in 1, the transmission does not select first gear until vehicle speed is less than 55 km/h. Take extreme care when selecting 1 if towing a trailer or caravan on a steep incline. Even though the transmission gear selector may be in 1, the transmission upshifts automatically to second gear above a specified engine speed. Remember to move the lever back to drive position so that the transmission again upshifts into higher gears.

MANUAL TRANSMISSION ✻

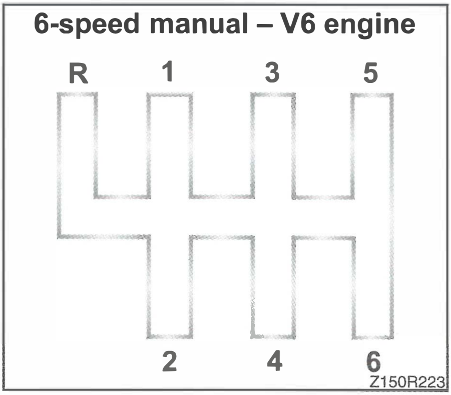
Shift patterns

The manual transmissions fitted to vehicles with V6 and V8 engines have six forward gears and a reverse gear.

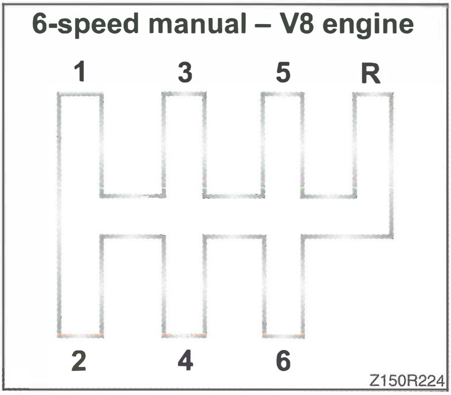
The shift pattern illustrated, is also found on the top of the gear shift lever.

When selecting R (reverse) you must shift the gear lever sideways against spring pressure in order to pass into the gear.

6-speed manual – V6 engine



6-speed manual – V8 engine



Operating notes

- When shifting from one gear to another, be sure to press the clutch pedal fully to avoid clashing and possible damage to the synchronising rings.
- Never attempt to engage reverse gear while the vehicle is still moving. Ensure a slight pause between pressing the clutch pedal and moving into reverse gear to allow all the rotating components to stop and avoid gear clashing. Whenever reverse gear is selected with the ignition on, the reversing lights illuminate.
- Shift the gear lever with a moderate effort to allow time for the transmission synchromesh to work properly.
- To avoid damage to the clutch, do not drive with your foot resting on the clutch pedal.
- When stopped on an incline, do not hold the vehicle by slipping the clutch. Use the park brake or foot brake.
- When climbing steep grades, change down to a lower gear before the engine starts to labour. To maintain safe speeds on a steep downgrade and to reduce brake wear and overheating, shift into a lower gear before starting the descent.
- Do not over speed the engine when shifting down to a lower gear.
- **V6:** 5th gear provides direct drive, whereas 6th gear provides overdrive.

  V8: 4th gear provides direct drive, whereas 5th and 6th gears provide overdrive.

ANTI-LOCK BRAKE SYSTEM

The Anti-lock Brake System (ABS) is in addition to the vehicle's normal brake system. It continually monitors the vehicle's braking system and prevents the wheels from locking up when braking, irrespective of the road conditions and tyre grip. It starts to regulate the braking as soon as a wheel shows a tendency to lock. The vehicle remains steerable, even in the event of panic braking, for instance on bends or when swerving to avoid an obstacle.

Maximum braking is provided for each wheel, up to the point where it would lock. In this case steering control is retained.

WARNING:

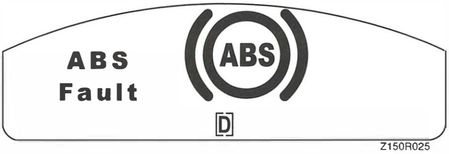
Do not let this special safety feature tempt you into taking risks when driving. Traffic safety can only be achieved by adopting a responsible driving style. The vehicle's speed should always be adjusted to suit road and traffic conditions.

Operation

When active, ABS operation is noticeable by pulsing of the brake pedal and the noise of the regulation process. To achieve optimum braking, keep the brake pedal pressed fully throughout the braking process. Use this as a reminder to match the vehicle's speed to the road conditions, even though ABS is keeping control of the braking.

In an emergency braking situation, keep full force on the brake pedal without pumping it. Pumping the brake pedal can reduce brake efficiency when ABS is controlling the braking.

The instrument panel provides an ABS (ABS off) warning light below the temperature gauge and an 'ABS Fault' animation via the centre display. To check that the bulb is working, the ABS warning light comes on for a few seconds when the ignition is turned on.



If the ABS warning light and 'ABS Fault' animation illuminate when driving, a malfunction of the Anti-lock Brake System is indicated. The vehicle's brake system remains operational, but without ABS assistance. Have your Holden Dealer check the system as soon as possible.

The 'ABS Fault' animation is displayed until the MODE button on the trip computer switch is pressed. Whereas, the ABS warning light remains illuminated until the problem is rectified.

The ABS system performs a self check each time the vehicle is driven. This can sometimes be heard as well as felt, as pulsing, through the brake pedal.

DRIVING PRECAUTIONS

Running-in

There is no need to follow a formal running-in schedule. However, by observing a few simple precautions during the first few hundred kilometres of driving you will greatly assist the vehicle's future performance and economy.

For the first 500 kilometres avoid using heavy acceleration.

Up to 1500 kilometres avoid driving at any one speed, either slow or fast, for any length of time. Therefore, avoid using the cruise control ✻ while 'running-in'. However, include some higher speeds during this period. Always drive at moderate speed until the engine has completely warmed up.

It is best to drive your new vehicle for 1500 km before towing a load. If you must tow before this do not exceed 80 km/h. The same applies if the vehicle has a new or reconditioned engine, transmission or rear axle.

Engine misfire

Reduce speed and do not tow a caravan or trailer until the misfiring is corrected at the nearest Holden Dealer. Otherwise, the catalytic converter and exhaust system may overheat, resulting in vehicle damage.

Brakes

The power assisted brakes fitted to the vehicle use vacuum from the engine when it is running. Therefore, never let the vehicle run down hills with the engine off, or coast after switching the engine off.

Positioned your seat so that you can push the brake pedal easily. Nothing should be under the brake pedal which could limit pedal travel, for instance, poorly fitting floor mats.

Consistent, heavy use will shorten the life of the brake pads.

Power steering

The power assisted steering fitted to the vehicle has been designed to reduce steering effort. Care should be taken not to hold the steering wheel fully turned when stationary (for example, when waiting before turning a corner) as this creates high operating temperatures and pressures within the system.

If power assistance for the steering is not working, due to the engine stalling for example, the vehicle can still be steered. However, due to the much greater effort required to steer, it is recommended that you have the problem fixed promptly.

Loading the vehicle

Loading the vehicle changes the mass distribution and therefore the handling when driving. After loading the vehicle, take care to become familiar with the vehicle's driving feel. Refer to Chapter 10, Tow and load.

DRIVING PRECAUTIONS cont.

Loose articles

Do not leave loose articles or luggage in the passenger compartment. Whenever possible, stow articles in the rear load area. Loads stowed in the rear load area should be firmly secured.

WARNING:

Gas cylinders can leak, creating a risk of fire or explosion. As a precaution, ensure adequate ventilation when carrying gas cylinders. They must be restrained from rolling around, and where possible, placed in the load area of the vehicle. It is recommended that if gas cylinders are frequently transported that a purpose-built carrying compartment be used. Transportation of gas cylinders is regulated by legislation in some states.

Mobile phones and CB radios

Mobile phones and CB radio equipment, which use an integrated antenna, may temporarily affect the vehicle's electronics (permanent damage is unlikely) when used inside the vehicle, due to the interference created when transmitting.

Therefore, mobile phones and CB equipment that use an antenna fitted to the outside of the vehicle should be used whenever possible.

If using mobile phones or CBs with an integrated antenna inside the vehicle, avoid using near the dashboard area, as some functions may be affected.

Water crossing

Before crossing water it is recommended that the air conditioning be switched off.

Crossing deep water could damage the engine. It is recommended that the water depth be no more than 175 mm and speed be limited to a walking pace. Brakes may then need drying out; lightly apply the brakes while maintaining a slow forward speed, with a clear area ahead, until brake performance returns to normal.

Tyre grip

A decrease in tyre grip occurs when water, snow, ice, gravel or other materials are on the road. Driving speed should be adjusted to the road conditions.

When driving on wet or slushy roads, it is possible for a wedge of water to build up between the tyre and road surface. This phenomenon, known as hydroplaning, may cause partial or complete loss of grip, which affects steering and braking. To reduce the possibility of hydroplaning:

- Reduce speeds during rainstorms.
- Replace tyres when tread wear indicators are visible.
- Regularly check that tyres are properly inflated.

ADD ON EQUIPMENT

Snow chains

Due to lack of clearance, snow chains cannot be fitted to vehicles equipped with the following wheel and tyre configurations:

- 215 / 65 R 16C 106 R 16 x 7
- 225 / 55 R 16 95 V 16 x 7
- 225 / 55 R 17 97 H 17 x 8
- 235 / 45 R 17 93 V 17 x 8
- 235 / 40 R 18 9 N 18 x 8

If these vehicles need to be driven in the snow, the owner should consider changing to the following wheel and tyre configurations:

Utility:

- P205 / 65 R 15 95 H 15 x 6 (for V6 engines only)
- 215 / 60 R 16 95 V 16 x 7 (for V8 and V6 engines)

Crew cab:

- 215 / 65 R 15C 104 R 15 x 7

Snow chains should be fitted only on the rear (drive) wheels.

Note for crew cab models: Snow chains recommended for light commercial vehicles must be used due to the higher load carrying capability of the vehicle.

Depending on design, large hub caps may contact parts of the chain. If so, remove the hub caps. Any valve extensions should also be removed.

Snow chains may only be used at speeds up to 50 km/h. Snow chains should only be used for short distances if the roads are not snow covered. The hard road surface causes rapid wear and the chain may break.

Snow chain links should not be thicker than 13 mm and the clasp should be well away from the bodywork. Thicker chains may damage the vehicle body.

Ensure that tyre pressures are as recommended on the tyre placard. Refer to 'Tyres' in Chapter 7.

Mud flaps

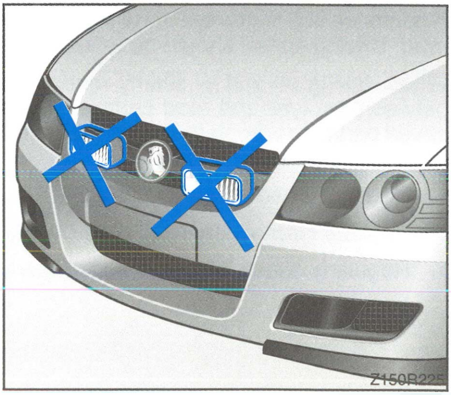
Mud flaps should be fitted if the vehicle is driven extensively on unsealed roads.

Note: Care should be taken when reversing to avoid trapping a mudflap between a tyre and a gutter.

Fitting driving lights, insect screens

When fitting these accessories be careful not to restrict air flow otherwise engine overheating and / or poor air conditioning performance may result.

Nothing should be fitted over the upper or lower air intakes at the front of the vehicle, as this could affect engine cooling.



ADD ON EQUIPMENT cont.

Fitting roo bars

If a roo bar is to be fitted, it is critical that the Holden approved roo bar be used. Other types ***must not*** be fitted. The Holden roo bar is available from your Holden Dealer and has been compatibility tested with the vehicle's design, including the Holden airbag system.

Fitting other types of roo bars may affect crash performance, airbag performance and engine cooling.

Roo bars should not be fitted to vehicles operating in suburban areas, as they increase the risk of injury to a pedestrian in the event of a collision. Roo bars are only recommended for country / outback areas, where additional protection from straying animals is required. Please remember that defensive driving and limiting driving speed to the road conditions is always the best approach, particularly where road side signs indicate wildlife is abundant.

CHAPTER 5

Fuel

Page
5-2 Fuel
5-4 Emission control
5-5 Reducing fuel consumption

WARNING:
The vehicle's engine has not been designed for conversion to LPG. The performance and safety of the vehicle would be seriously jeopardised if converted to LPG.

✻ The asterisk signifies equipment options not in all vehicles (model variants, engine options, optional equipment and Genuine Holden Parts and Accessories).

FUEL

EXHAUST WARNING – CARBON MONOXIDE POISONING:

Exhaust gases can produce carbon monoxide, a dangerous gas, which can cause unconsciousness and even death to both humans and animals.

You could inhale the gases if the exhaust system on your vehicle is faulty.

To protect against exhaust gases entering the vehicle, the exhaust system and body should be inspected:

- each time the vehicle is serviced,
- whenever a change is noticed in the sound of the exhaust system,
- whenever the exhaust system, underbody or rear of the vehicle is damaged.

Take the vehicle to your Holden Dealer if you think your vehicle needs inspecting for any of the above reasons.

Do not sit (or leave children or pets) in a parked vehicle for any extended period of time with the engine running. Do not run the engine in an enclosed area (such as the garage) any longer than is needed to move the vehicle.

FUEL WARNING:

- Fuel is extremely flammable and highly explosive.
- Always turn off the engine of your vehicle and any mobile phones when refuelling.
- Do not smoke or allow open flames or sparks near the vehicle when refuelling.
- If fuel fumes are smelt while driving, the cause should be found and corrected without delay by your Holden Dealer.

WARNING – FUEL ADDITIVES:

Various additives are used in the formulation of good quality fuel and the use of supplementary additives in fuel is not required unless specified by Holden. Under no circumstances should fuel containing the manganese additive known as MMT (methyl cyclopentadienyl manganese tricarbonyl) be used, as this additive is known to cause contamination of catalytic converters, spark plugs and the malfunction of On-Board-Diagnostic (OBD) systems. The use of fuel additives that are not recommended by Holden may affect your New Vehicle Warranty to the extent that Holden considers that the additives affect the specifications and quality of your vehicle.

WARNING – USE OF FUEL CONTAINING ETHANOL:

When purchasing such fuel, we recommend that the vehicle be operated on fuel containing no more than 10% ethanol. Purchasing your fuel from a reputable fuel retailer may reduce the risk of purchasing fuel with more than 10% ethanol or fuel which contains abnormal fuel properties. Under no circumstances should you use fuel containing more than 10% ethanol. Use of such fuels may result in engine malfunction, starting and operating difficulties, and materials degradation. These adverse effects could result in permanent damage to your vehicle and personal injury. It is also important to note that when ethanol blends are used, fuel consumption can be expected to increase due to the lower energy content of ethanol.

The use of any fuel, other than the fuel specified on the following page, may seriously damage your vehicle and may void the warranty. Only clean fuel of good quality should be used. The use of fuel containing more than 10% ethanol may also affect your New Vehicle Warranty to the extent that Holden considers that the fuel affects the specifications and quality of your vehicle.

FUEL cont.

Fuel – general

Always fill the fuel tank at the intermediate or fast fill rate. Do not add any more fuel after the fuel filler first clicks off or fuel blows back – this allows room for the fuel to expand inside the tank. Only trickle-fill fuel tanks when the vehicle is to be driven for more than 50 km immediately after the tank is filled. However, this is not recommended on days over 30°C.

Wipe off any overflowing fuel immediately from the vehicle; spray or splash with water (replace the fuel cap and close the fuel opening before spraying with water).

Fuel flap

Open the fuel flap from outside the vehicle, on the right-hand side, as shown.

Petrol cap

The petrol cap (under the fuel flap, on the utility and crew cab models) is a screw-on, ratchet type. After refilling, tighten the cap clockwise until a clicking noise is heard and then close the fuel flap.

Tank capacity

Refer to Chapter 8, Specifications, for information on fuel tank capacity.

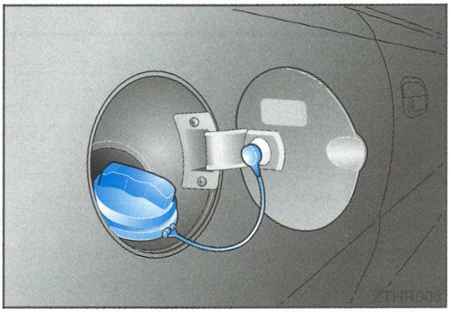
Fuel type

Use unleaded petrol of regular 91 Research Octane Number (RON) rating or higher. Use of Premium unleaded petrol (95 RON or higher) may provide a small improvement in performance and fuel economy.

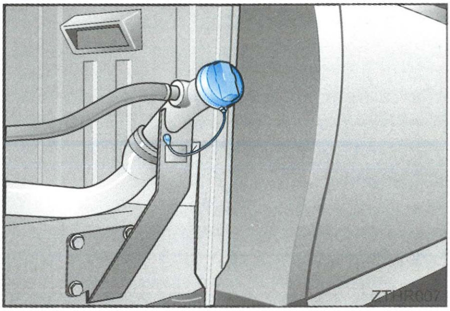
LPG conversion

WARNING:

The vehicle's engine has not been designed for conversion to LPG. The performance and safety of the vehicle would be seriously jeopardised if converted to LPG.



Utility and crew cab



Crew cab (without tub)

EMISSION CONTROL

The vehicle is fitted with emission control systems, which are designed to reduce the amount of hydrocarbons (HC), carbon monoxide (CO), and oxides of nitrogen (NOx) that are emitted from the engine and fuel system into the atmosphere. Hydrocarbons and oxides of nitrogen, when exposed to sunlight under certain conditions, contribute to photochemical smog. In addition, carbon monoxide is toxic when it becomes highly concentrated in the air.

The three major emission control systems that may be fitted to the vehicle are:

1. **Evaporative Emission Control System**

   This system is designed to prevent the escape of fuel vapour from the fuel system and recycle the vapours through the normal combustion process.

2. **Crankcase Emission Control System**

   This system is designed to prevent blow-by gases from escaping into the atmosphere and recycle them through the combustion process.

3. **Exhaust Emission Control System**

   The various components of this system operate collectively to limit HC, CO and NOx emissions in the exhaust gas. The exhaust Emission Control System is comprised of components including electronic control of spark, fuel and idle speed. In addition, some vehicles have a catalytic converter and closed loop mixture control system.

For detailed information on the operation, servicing and repair procedures for these systems, refer to the vehicle's service booklet and / or the emission label inside the engine compartment of the vehicle.

Owner responsibility

The engine, engine control system or exhaust system of the vehicle must NOT be modified in any way. Any change to the design may increase the emissions or otherwise defeat the intent of the regulations.

WARNING:

Any person who removes, modifies or hinders any part of the emission control system may be contravening Australian Design Rules, refer A.D.R. 28/01 (External Noise for Motor Vehicles) and A.D.R. 79/01 (Emission Control for Light Vehicles, ‘Euro 3’). It is also illegal to drive a vehicle modified in this way.

Maintenance requirements

To ensure continuing compliance with the regulations you must maintain the vehicle’s emission control system as per the vehicle's service booklet, at the frequency shown in the Maintenance Schedule of the vehicle's service booklet which is stored inside the vehicle’s glovebox.

It is recommended that the necessary servicing be performed by an authorised Holden Dealer who has the specialised servicing equipment and trained personnel available to ensure that the adjustments and services specified are carried out.

REDUCING FUEL CONSUMPTION

Engine

To keep the engine in peak mechanical condition, have it serviced regularly in accordance with the Maintenance Schedule of the vehicle's service booklet which is stored inside the vehicle’s glovebox. This ensures items such as the spark plugs, air cleaner and engine idle speed are maintained for minimum fuel usage and peak engine performance.

Tyre pressure

Keep the tyres at the recommended pressures. Under-inflated tyres create extra rolling resistance which contributes to increased fuel consumption. Refer to ‘Tyres’ in Chapter 7.

Incorrect tyre pressures can also cause uneven and premature tyre wear.

Wheel alignment

Maintain correct front and rear wheel alignment. Incorrect alignment makes the wheels drag, which increases fuel consumption and causes uneven and premature tyre wear.

Warm ups and idling

Avoid long engine warm ups. They are unnecessary and waste fuel. An engine takes approximately 5 minutes to reach its efficient operating temperature and it does this most effectively when driving.

Avoid long engine idling. If you have to wait for more than a couple of minutes turn off the engine to conserve fuel.

Accelerating, driving and braking

Accelerate gently and avoid rapid starts. Sudden bursts of speed, full throttle acceleration and hard braking waste fuel.

Drive the vehicle at steady speeds where possible (after running-in).

MANUAL TRANSMISSION: It is desirable to reach top gear as soon as possible, but under no circumstances should you force the engine to labour in top gear.

Riding the brake

Do not rest your foot on the brake pedal when you do not intend to brake, as this can overheat the brakes, increase brake pad wear, damage the brakes and waste fuel.

Air conditioning

Turn off the air conditioner when not required. However, once every 2 weeks, with the engine running, switch the air conditioner on for 5 to 10 minutes to lubricate seals (even in winter).

CHAPTER 6

Emergencies

Page
6-2 Accidents
Being involved
Being a witness
Medical assistance
6-4 Flat tyre
6-9 Towing a disabled vehicle
6-10 Fuses
6-12 Engine overheating
6-14 Flat battery
6-16 Airbags
6-19 Bulb replacement

Your new vehicle is covered for 3 years by 24 hour Roadside Assistance. Refer to Chapter 9 for details.

✻ The asterisk signifies equipment options not in all vehicles (model variants, engine options, optional equipment and Genuine Holden Parts and Accessories).

ACCIDENTS

All drivers are advised to learn what to do at the scene of an accident, particularly where people are injured. Injured people can choke to death if their air passages are not cleared, they can bleed to death unless the bleeding is stopped, they may require mouth-to-mouth resuscitation or may have to be moved, even though badly injured. It is important that you understand how to avoid further damage to an injured neck, back or broken limbs. In all cases, ensure safety for rescuers, victims and bystanders.

The following notes may help.

Accident – being involved

If you are involved in an accident, you are advised to do as follows:

- Stop immediately and remember to turn off the engine and apply the park brake.
- Remember that time is vital. Remain calm and alert. Think quickly and clearly.
- Give all possible assistance to all injured persons. Refer to 'Medical assistance' further in this chapter.
- Send for police and ambulance if anyone has been injured. Give information as accurately as possible: the exact location, the number of injured people and a brief report on the overall situation.
- Warn all other traffic approaching the scene. Some models of vehicle are provided with a safety triangle which can be erected ahead of the scene of an accident to warn approaching traffic.
- Turn off ignition switches. Stop any smoking and mobile phone use near spilt petrol. In darkness, try to light up the area to warn others – use hazard lights, a torch or headlights. Do not use flammable items.
- Clear the road of accident debris.
- Exchange your name, address, vehicle registration, owner's name and address with the other parties involved in the accident.
- If damage to property only has occurred, report the facts to the owner of the damaged property or to his / her representative, to any police present at the scene of the accident, or to the nearest Police Station.
- Try to note all important facts because such details may be needed to support any official enquiries made at a later date.

Accident – being a witness

If you witness a road accident or it becomes your task to stop and help:

- Keep in mind that an observant witness can prove most helpful.
- DO NOT stop at the scene of an accident just to be a spectator. If other people are already in attendance and giving assistance, you should only stop if you can contribute assistance.
- Give what assistance you can to any injured persons. Refer to 'Medical assistance' further in this chapter.

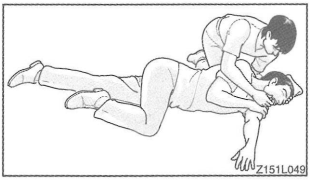
ACCIDENTS cont.

Medical assistance

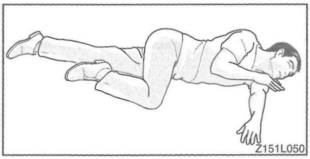
This information is intended only as a guide to basic first aid and may not be applicable in all situations. You should always defer to a trained medical officer or other person with first aid knowledge. Protective equipment, such as rubber gloves are recommended.

Keep calm and think clearly. Your experience may be limited but do your best to assist.

- Look after any unconscious people first. Check their airway, breathing and circulation. If they are not breathing, check if their air passages are clear, for example nose and mouth. Use your fingers to clear air passages if necessary. If the air way is clear then mouth-to-mouth resuscitation may be needed at once.
- You must be very careful when moving an injured person. It is best not to move them at all, except if they are in immediate danger. Serious and permanent damage can be done to an injured neck or back if not supported correctly during movement. AVOID BENDING OR TWISTING A NECK OR BACK. KEEP THEM STRAIGHT. Injured limbs also require support when an injured person has to be moved.
    - Unconscious people can choke.
    - Carefully turn them onto one side.
    - Tilt their head back slightly.
    - Wipe out their mouth with your finger to remove any obstructions such as blood, vomit, broken teeth or dentures.



- Provided it is not dangerous to do so because of other injuries, an unconscious person is best placed in the position illustrated here.
    - Lay the person on one side, if it will not aggravate any injuries.
    - Bend the uppermost knee until the thigh is at a right angle to the body.
    - Bend the uppermost arm and elbow so that the hand rests near the face.
    - Gently pull the underneath arm so that it rests straight on the ground, free of any body weight.



- Try to stop bleeding by applying direct pressure to the wound using your hand, or by pressing torn flesh together. Fold any clean cloths available to make pads. If necessary press one pad on top of another. Continue to apply pressure around edges of a wound BUT NEVER USE A TOURNIQUET.
- Shock may be treated by reassuring the injured person, relieving pain, controlling any bleeding and keeping them warm but not hot. It is best not to give any fluids to an injured person and NEVER ALCOHOL.
- If the injured person is in danger and has to be moved, try to have three or four people to help and concentrate on not bending or twisting the neck, spine and injured limbs. Keeping the neck and spine straight is most important.

FLAT TYRE

WARNING:

- Use the jack only for lifting the vehicle when changing wheels.
- Never get beneath the vehicle when it is only supported by the jack.
- Do not start or run the engine while the vehicle is only supported by the jack.
- All passengers should be out of the vehicle when it is being jacked.
- Use the jack only at the designated lifting points. Use in other locations may result in the vehicle falling off the jack, or damage the body of the vehicle.
- If using a jack (or hoist) other than the jack supplied with the vehicle, refer to Chapter 7 for the correct lifting positions.
- The vehicle should only be jacked on hard, level surfaces.
- Vehicles with alloy wheels may have a steel spare wheel fitted. Drive carefully and do not exceed 80 km/h when a combination of alloy and steel wheels are fitted on the vehicle. The flat tyre should be repaired and installed back on to the vehicle as soon as possible.

One-direction (unidirectional) tyres

SS models are fitted with unidirectional tyres, indicated by arrows on the tyre wall showing the direction it is designed to rotate when the vehicle is moving forward. If the tyres are marked with arrows, the tyres on the left-hand side of the vehicle show the arrow pointing anticlockwise, and those on the right-hand side show the arrow pointing clockwise.

Wherever possible, unidirectional tyres should be replaced with a tyre of the correct orientation. In the event of a flat tyre emergency, a unidirectional tyre may be fitted to the 'wrong' side of the vehicle or a multidirectional tyre used temporarily. However, the flat tyre should be repaired and installed back on to the vehicle as soon as possible.

WARNING:

Drive carefully, particularly in wet conditions, and do not exceed 80 km/h when an incorrectly placed unidirectional tyre or a combination of unidirectional and multidirectional tyres are fitted to the vehicle. The flat tyre should be repaired and installed back on to the vehicle as soon as possible.

Changing a flat tyre

1. Park on a hard, level surface, in a safe location, and set the park brake firmly. Turn the hazard warning flashers on.
2. Remove the ignition key and place manual transmissions in reverse gear or automatic transmissions in Park.
3. Remove the jack and combination jack handle / wheel wrench. Instructions for removing these parts from the utility and crew cab models are outlined as follows.

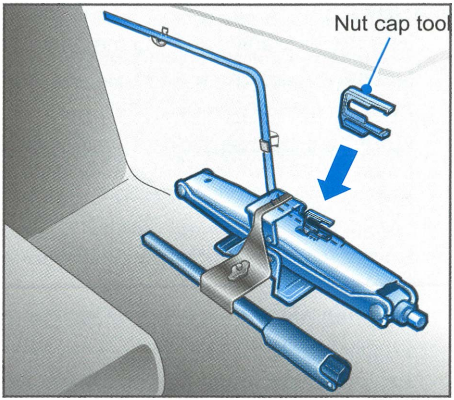
FLAT TYRE cont.

Utility

The jacking tools are stored behind the passenger's seat.

- Move the passenger's seat forward to access the jacking tools.
- Remove the jack, combination jack handle / wheel wrench and spare wheel hoist handle from behind the seat by unscrewing the nut on the retaining bracket and lifting them out (utility shown in the illustration).

Note: If the vehicle is fitted with individual nut caps, slide the nut cap tool from its housing on the jack.



Utility

Crew cab

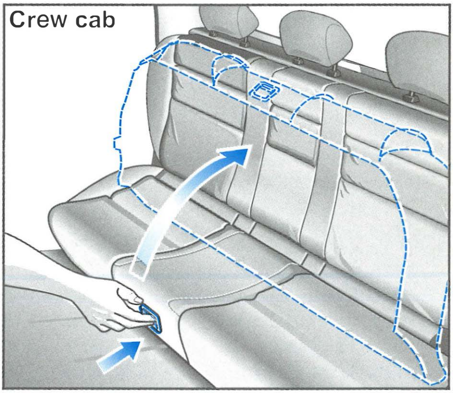
The jacking tools are stored under the rear seat, as shown.

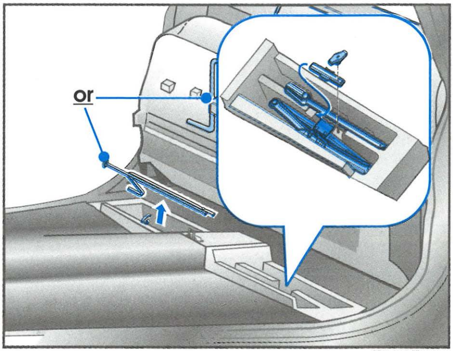
- Raise the rear seat by pressing the lock button on the front of the seat cushion and lift up.
- Remove the spare wheel hoist handle from either:
  - – The storage tray by releasing the velcro strap. Unfold the hoist handle ready for use.

    or
  - – Under the seat base.

  Depending on handle type supplied.
- Remove the jack, combination jack handle / wheel wrench from the storage tray by unscrewing the nut on the retaining bracket and lifting them out.

Note: If the vehicle is fitted with individual nut caps, slide the nut cap tool from the storage tray.





Crew cab

FLAT TYRE cont.

4. Remove the spare wheel as follows:

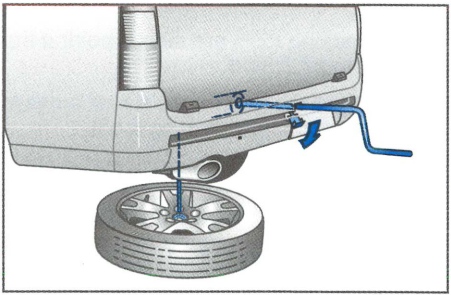
   At the rear of the vehicle, insert the hoist handle through the round hole near the number plate (crew cab shown).

   Note for crew cab: Pull out the blanking cover in the rear bumper bar to access the hole for the hoist handle.

   'Jiggle' the hoist handle until the square end of the handle fits into the cutout in the hoist.

   Turn the hoist handle anticlockwise to fully lower the spare wheel.

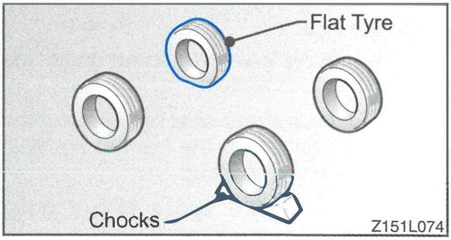
   From underneath the wheel, tilt the wheel retainer, and pass it up through the centre of the wheel.



Z170R058

5. Chock the wheel diagonally opposite the wheel being jacked with a solid object.

   Note: If the vehicle is on an incline, the chock must be placed on the downhill side.



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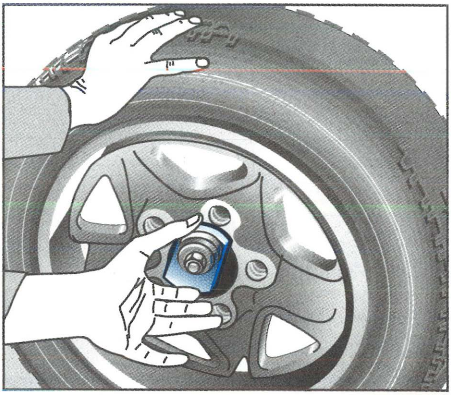
6. If individual wheel nut caps are fitted, remove each nut cap individually, using the nut cap tool provided. Insert the nut cap tool into the nut cavity, squeeze the tool to grasp the nut cap and pull outwards to remove it. Put the nut caps (together) in a dry, clean place to avoid getting dirt inside the caps.

   If a centre cap is fitted that covers the wheel nuts, then remove it by using the end of the wheel wrench or your fingers.

7. Loosen, but do not remove the wheel nuts by turning the wheel wrench anticlockwise.



Z170R059

FLAT TYRE cont.

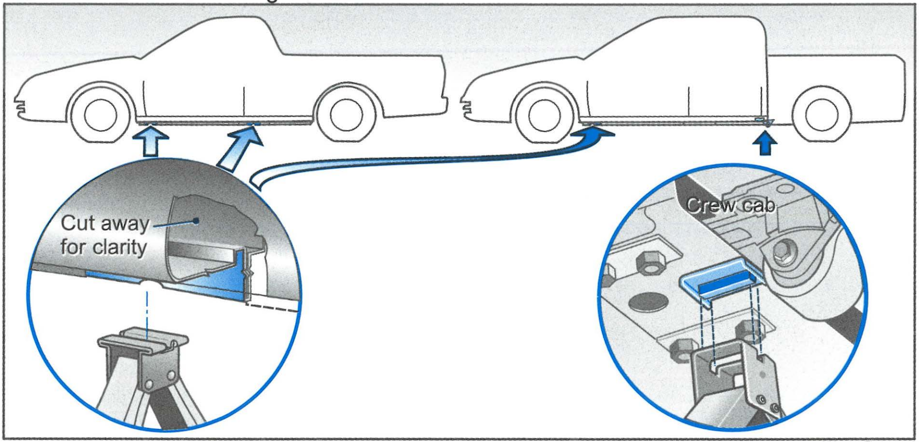
8. Fit the jack handle onto the jack by sliding the open end of the handle over the nut end of the jack.

   WARNING:

   Failure to position the jack as described below could cause the vehicle to slip off the jack.

9. Place the jack beneath the jack location closest to the wheel being changed.

   There are four jack locations; two each side of the vehicle as shown by the blue arrows in the following illustrations.



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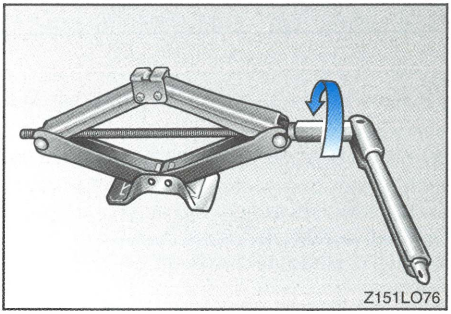
   The front (all vehicles) and rear (utility only) location are marked by half circle cutouts on the vehicle. The rear jack locations on both the regular and crew cabs have a raised ridge for mating with the jack head.

   Note: Always read the label on the jack.

10. Raise the jack to the body of the vehicle at the appropriate jacking location.



Z151LO76

   Note: The groove in the jack head should mate securely with the cutout or raised ridge (depending on model and location) on the vehicle's jacking point.

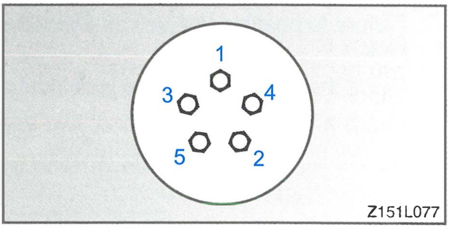
   Ensure that the jack is not tilted and that the base is resting squarely on the ground.

   Turn the handle clockwise to raise and anticlockwise to lower the vehicle.

   Note: The jack handle must be unfolded into a right angle (as shown) before it is used.

FLAT TYRE cont.

11. Raise the vehicle until the tyre is clear of the ground. Remove the wheel nuts and place (together) in a dry place to avoid getting dirt in the threads. Exchange the wheel on the vehicle with the spare wheel.
12. Replace the wheel nuts and tighten by hand. Then, using the wheel wrench, lightly tighten each nut in the sequence shown.
13. Lower the vehicle completely and remove the jack.
14. Fully tighten the wheel nuts using the wheel wrench in the sequence shown.



15. Replace any wheel trim which covers wheel nuts, as follows:
    - Ensure that the wheel trim is clean of excess dirt.

    Note: Each type of wheel trim fits in a specific position on the wheel. If incorrectly placed the trim will not sit 'flush' and, if forced, may damage the wheel.

    - Where **a centre cap** is fitted, simply push the cap firmly onto the centre part of the wheel using your hand.
    - Where **individual wheel nut caps** are fitted, replace caps over each wheel nut.
16. Stow all tools and flat tyre as shown previously.

    Note:

    - When winding the hoist handle clockwise to return the spare wheel to its stored position, there may be a ‘tight spot’ as the spare tyre nears the top. It is important that this ‘tight spot’ is not mistaken for the fully raised position. Check the spare wheel is properly secured in the fully raised position before removing the hoist handle.
    - Utility – After replacing the jack, wind the jack nut by hand to take up any slack between the jack head and the jack retaining bracket. This helps avoid any unwanted noise emanating from the jack and retaining bracket.
    - Crew cab – Remember to install hoist handle access hole blanking cover back into the rear bumper bar.
17. Remember to have the tyre repaired as soon as possible.

WARNING:

As soon as possible after changing a wheel, you should have the wheel nuts tightened with a torque wrench to between 110 and 140 Nm (Newton metres). Wheel nuts should be tightened evenly to the correct torque in the sequence shown (refer to the previously in this chapter), as wheel nuts which have not been tightened properly could eventually allow the wheel to come off while the vehicle is moving!

TOWING A DISABLED VEHICLE

Towing a disabled vehicle

Proper lifting or towing equipment is necessary when lifting or towing the vehicle to prevent damage. State laws must be followed. In an emergency, the vehicle may be towed on all four wheels in the following manner:

- Fit the towing equipment to the holes at the side of the front cross member. Use of two hooks with the load evenly spread, rather than one, is recommended. Do not attach towing equipment to the bumpers or brackets, suspension or cross members.
- Place the transmission in Neutral and release the park brake.
- Switch the ignition key to Accessories. This will free the steering lock and allow the correct operation of windscreen wipers and turn signals.
- For safety and to prevent damage to the vehicle it is advisable to avoid jerky movements and to drive slowly during towing operations.
- Remember that power assist for brakes and power steering are not available when the engine is off. The brakes and steering still function, but take greater effort.
- To prevent exhaust fumes from the towing vehicle entering the towed vehicle, close the windows and move heating and ventilation controls to the 'recirculate' position.
- Vehicles fitted with automatic transmissions must not be towed for more than 55 km or at over 55 km/h unless the propeller shaft is removed.
- Vehicles with damaged transmissions must not be towed unless the propeller shaft is removed.
- Only the driver should be in a towed vehicle.

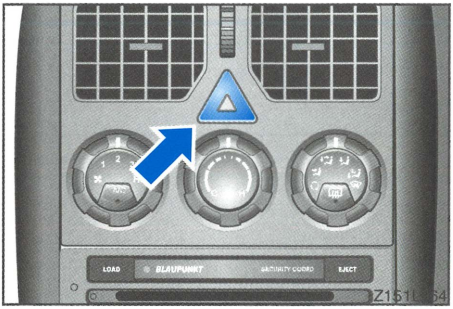
Hazard warning flashers

Press the switch (as illustrated) to turn the hazard warning flashers on and off. The hazard warning flashers work regardless of the ignition position.

When turned on, all turn signals flash continuously.

Use the hazard warning flashers to warn other drivers any time your vehicle becomes a traffic hazard, day or night.

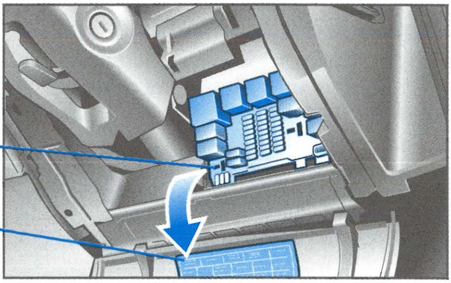
Use of the hazard warning flashers while the vehicle is moving may be illegal in some states.



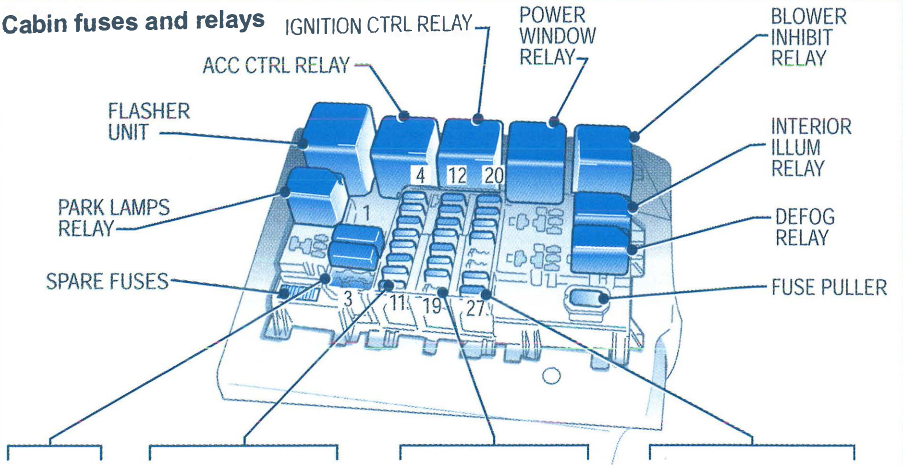
FUSES

The main fuse panel is in the instrument panel, below the steering column.

Pull the hinged fuse panel down to reveal the fuses.


Fuse and relay panel
Fuse layout diagram

Z150R299


Cabin fuses and relays

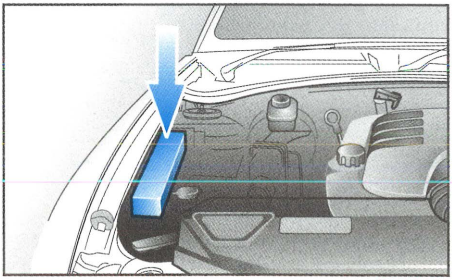
IGNITION CTRL RELAY
POWER WINDOW RELAY
BLOWER INHIBIT RELAY
ACC CTRL RELAY
FLASHER UNIT
INTERIOR ILLUM RELAY
4
12
20
1
PARK LAMPS RELAY
DEFOG RELAY
SPARE FUSES
3
11
19
27
FUSE PULLER

1 (20A)	POWER WINDOWS
2 (20A)	POWER SEATS
3	(SPARE)
4 (10A)	PARK LAMPS
5 (15A)	STOP LAMPS
6 (10A)	INTERIOR ILLUM.
7 (15A)	ANTENNA DRIVE/HAZARD WARNING
8 (10A)	AUTO TRANS (V6 ONLY)
9 (15A)	HORN
10 (7.5A)	IGNITION
11 (7.5A)	INSTRUMENT ILLUM.
12 (15A)	TURN SIGNAL
13 (7.5A)	ECC/HTR CONT/ INST/TELEM.
14 (20A)	CIGAR LIGHTER
15 (10A)	CRUISE CONT/ PWR MIRRORS/ ENGINE
16 (7.5A)	RADIO/NAV/ PHONE
17 (20A)	ACC. SOCKET
18 (20A)	WIPER & WASHER
19	(SPARE)
20 (15A)	THEFT HORN/ PWR DR LOCK/ PWRWDO
21 (10A)	INSTRUMENTS/ CLIMATE CTRL (ECC)
22 (20A)	HEATED REAR WINDOW
23 (15A)	RADIO/NAV/ PHONE
24	(SPARE)
25	(SPARE)
26 (15A)	SRS (AIRBAG)
27 (10A)	ABS

Z130R017

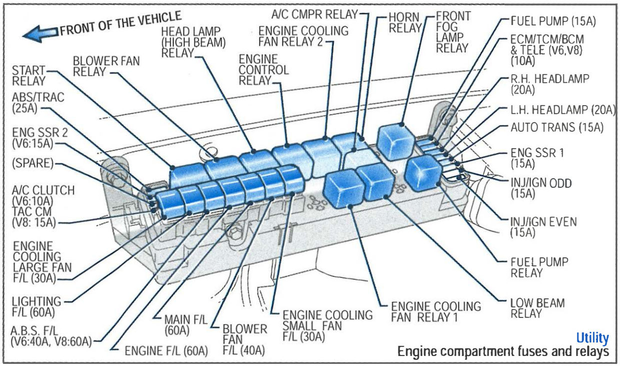
The separate fuse / relay box is located in the engine compartment, marked 'Fuses'. Access to these fuses is gained by removing the snap-on cover.

Both covers have diagrams showing the layout of the fuses and their amperage rating.



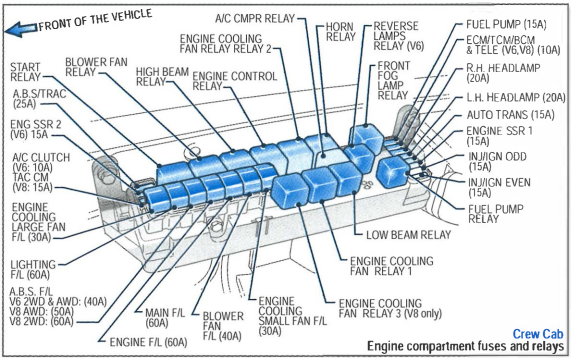
Z150R321

FUSES cont.


FRONT OF THE VEHICLE
HEAD LAMP (HIGH BEAM) RELAY
A/C CMPR RELAY
ENGINE COOLING FAN RELAY 2
ENGINE CONTROL RELAY
HORN RELAY
FRONT FOG LAMP RELAY
FUEL PUMP (15A)
ECM/TCM/BCM & TELE (V6,V8) (10A)
R.H. HEADLAMP (20A)
L.H. HEADLAMP (20A)
AUTO TRANS (15A)
ENG SSR 1 (15A)
INJ/IGN ODD (15A)
INJ/IGN EVEN (15A)
FUEL PUMP RELAY
LOW BEAM RELAY
START RELAY
BLOWER FAN RELAY
ABS/TRAC (25A)
ENG SSR 2 (V6:15A)
(SPARE)
A/C CLUTCH (V6:10A) TAC CM (V8: 15A)
ENGINE COOLING LARGE FAN F/L (30A)
LIGHTING F/L (60A)
A.B.S. F/L (V6:40A, V8:60A)
ENGINE F/L (60A)
MAIN F/L (60A)
BLOWER FAN F/L (40A)
ENGINE COOLING SMALL FAN F/L (30A)
ENGINE COOLING FAN RELAY 1

Utility
Engine compartment fuses and relays

Z140R004A


FRONT OF THE VEHICLE
A/C CMPR RELAY
ENGINE COOLING FAN RELAY RELAY 2
HORN RELAY
REVERSE LAMPS RELAY (V6)
FRONT FOG LAMP RELAY
FUEL PUMP (15A)
ECM/TCM/BCM & TELE (V6,V8) (10A)
R.H. HEADLAMP (20A)
L.H. HEADLAMP (20A)
AUTO TRANS (15A)
ENGINE SSR 1 (15A)
INJ/IGN ODD (15A)
INJ/IGN EVEN (15A)
FUEL PUMP RELAY
START RELAY
BLOWER FAN RELAY
HIGH BEAM RELAY
ENGINE CONTROL RELAY
A.B.S/TRAC (25A)
ENG SSR 2 (V6) 15A
A/C CLUTCH (V6: 10A) TAC CM (V8: 15A)
ENGINE COOLING LARGE FAN F/L (30A)
LIGHTING F/L (60A)
A.B.S. F/L V6 2WD & AWD: (40A) V8 AWD: (50A) V8 2WD: (60A)
ENGINE F/L (60A)
MAIN F/L (60A)
BLOWER FAN F/L (40A)
ENGINE COOLING SMALL FAN F/L (30A)
LOW BEAM RELAY
ENGINE COOLING FAN RELAY 1
ENGINE COOLING FAN RELAY 3 (V8 only)

Crew Cab
Engine compartment fuses and relays

Z100R012B

To determine whether or not a fuse is 'blown', it is necessary to pull out the suspect fuse and examine the element in the fuse. A fuse puller is provided in the fuse panel inside the vehicle.

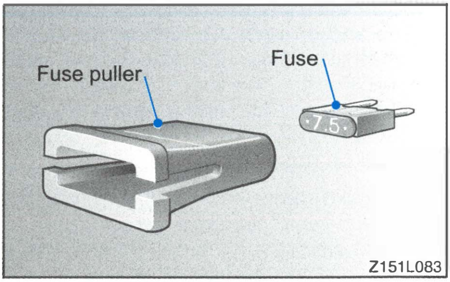
If the fuse has blown, replace with one of the same amperage, as stamped on the fuse head, refer to examples shown in the table.

If a fuse blows twice in a row a fault is indicated. The cause should be promptly located and fixed.

Ensure that the fuse cover, either inside the vehicle or under the bonnet, is securely in place.

WARNING:

When replacing a fuse be sure to use a fuse of the specified amperage. Never install a wire or similar object as it could damage electrical components and cause a fire.


Fuse puller
Fuse
7.5
Z151L083

COLOUR	RATING (AMPS)
Brown	7.5
Red	10
Blue	15
Yellow	20
Green	30
Orange	40

ENGINE OVERHEATING

WARNING:

Immediate action is required if the engine overheats. This can be indicated by the temperature gauge needle moving over to the 'H' or the animated warning 'Engine Temp Hot' appearing on the central display (refer to Chapter 1, Warning / Reminder Indications), by steam escaping from under the bonnet, a loss of power or a loud knocking or pinging noise.

If an overheated engine condition exists, the overheated engine protection mode is activated. This protection mode alternates firing groups of cylinders and helps prevent engine damage. In this mode, there is a loss of power and engine performance. This operating mode allows the vehicle to be driven at a speed of up to 80km/h for the duration of one hour.

While your vehicle is fitted with this function, it is advisable to stop the vehicle as soon as it is safe to do so and take the vehicle to the nearest Holden Dealer.

WARNING:

After driving in the overheated engine protection mode and to avoid engine damage, allow the engine to cool before attempting any repair. The engine oil will be severely degraded. Repair the cause of coolant loss and change the oil.

Pull out of the traffic as soon as possible and stop the vehicle. Leave the engine idling, ensure that the park brake is applied, and that manual transmissions are placed in Neutral and automatic transmissions are placed in Park, while you get out and check that the cooling fan is working.

WARNING:

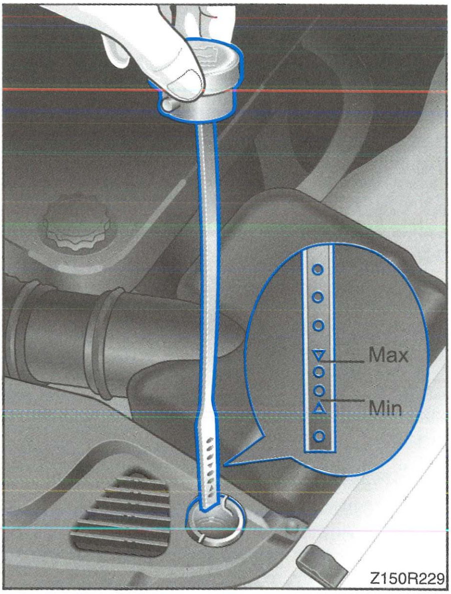
Do not open the bonnet if you can see or hear steam or coolant escaping from the engine compartment. Wait until no steam or coolant can be seen or heard before opening the bonnet.

If the fan is working and the temperature gauge needle has not returned to its normal position within a few minutes, stop the engine and remove the ignition key. Look for leaks at the radiator hoses and connections, heater hoses and connections, radiator and water pump. Take care when checking these areas as they may still be hot.

If you find a major leak or other problems that may have caused the engine to overheat, do not run the engine until these problems have been corrected.

Check the air intake area below the front bumper to ensure that it is clear of leaves and road grime. Refer to Chapter 7, Weekly checks for details.

If you do not find anything wrong, you should check the engine coolant level.



ENGINE OVERHEATING cont.

Turn the coolant dipstick cap one-eighth of a turn anticlockwise and pull out the dipstick. When the engine is cold, the coolant level should be at or above the lower triangle mark on the dipstick. After the vehicle has been driven and the engine is at normal operating temperature, the level should be somewhere between half full and the Maximum triangle mark. If the coolant level is correct, replace the dipstick and turn the cap one-eighth of a turn clockwise to secure. If the level is too low, proceed as follows:

WARNING:

Do not remove the radiator cap if the engine and radiator are still hot. Scalding fluid and steam can be blown out under pressure which could cause serious burns.

When the engine has cooled sufficiently, check the radiator level and fill as follows.

1. Remove the coolant dipstick.
2. Top up the coolant dipstick tank if required. Remember to check that the dipstick is secure after filling.

For V6 Engines: Locate the radiator cap housed on the engine.

- Cover the cap with a thick cloth and turn it slowly anticlockwise until it can be removed.

For V8 Engines: Remove the radiator shroud to expose the radiator cap.

- Cover the radiator cap with a thick cloth and turn it slowly anticlockwise (without pressing down) until it reaches a 'stop'. This is the pressure relief stop, which allows any remaining pressure (indicated by a hissing sound) to escape.
- Press down on the cap and continue turning it anticlockwise until it can be removed.

3. If there is no coolant or the coolant level is low once the radiator cap has been removed, fill the system.
4. Start the engine and leave to idle while the radiator cap is off. Monitor and if the coolant level drops, top up as required.
5. Replace the radiator cap by turning fully clockwise.

If, after carrying out one or more of the preceding actions the temperature gauge no longer signals an overheat condition, resume driving at a reduced speed. Return to normal driving after 10 minutes if the temperature gauge does not show an overheat condition once more. If overheating occurs again, have the vehicle attended to by a qualified mechanic as soon as possible.

The engine may temporarily operate at high temperatures during demanding operating conditions, especially on hot days, including: climbing a long hill; stopping immediately after high speed driving; idling for long periods in traffic; towing a heavily laden trailer or caravan.

Avoid driving for prolonged periods in any of the above conditions if the temperature gauge shows 'H'. It may help to turn off the air conditioner in these conditions. Refer to chapter 7 for instructions on protecting the cooling system from overheating.

Air bleeding

These engines have bleeder vents to let any trapped air escape from the cooling system. Air bleeding should be done if a significant amount of coolant has been added, otherwise the engine may overheat.

It is recommended that air bleeding be done by your Holden Dealer who has the most up-to-date technical information and equipment for the system.

If you have to drive the vehicle before the air bleeding is done, ensure that the coolant level in the radiator is as high as possible. This involves constantly checking and topping up the level. It is recommended you reduce the load on the power train, for example, reduce the driving speed, do not tow heavy loads or heavily load the vehicle until the air is bled.

FLAT BATTERY

WARNING:

DO NOT 'push start' or 'tow start' your vehicle, either manual or automatic. If unburnt fuel were to reach the catalytic converter and ignite, the converter could overheat or be destroyed by backfire. Therefore, if the battery is flat, you can 'jump start', but not 'push start' the vehicle.

Please read the following procedure in full before attempting to jump start the vehicle.

If, after reading the following procedure, you are still unsure about 'jump starting' Holden strongly recommends for your safety and that of the vehicle that you seek the assistance of a competent mechanic.

Jump starting

WARNING:

Batteries produce explosive gases, contain corrosive acids and supply levels of electrical current high enough to cause burns. Therefore, adhere to the following when working near a battery:

- Do not use open flames or sparks near the battery.
- Do not smoke near the battery.
- Wear eye protection such as safety glasses and avoid leaning over the battery.
- Battery acid is corrosive. If it gets on your skin, wash with plenty of water immediately. If it gets in your eyes you should not only flush with lots of water but should also seek medical help. Battery acid also damages paint and fabrics. To minimise damage, wash off immediately.
- Be sure any batteries that have filler caps are properly filled with fluid.
- Remove rings, metal watch bands and other metal jewellery before working around the battery.
- Never use a quick charger to start the engine.
- If you have a telephone fitted to the vehicle, you should remove the fuse for the telephone before jump starting. Remember to replace the fuse afterwards.

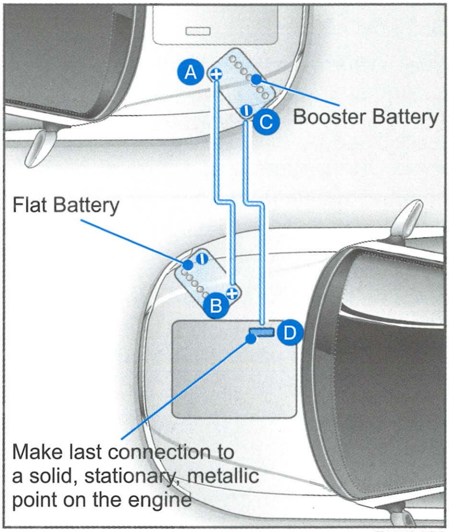
1. The battery in your vehicle has a negative earth and a 12 volt rating. The battery in the other vehicle **MUST** also have a negative earth and a 12 volt rating. Remove any battery covers.
2. Position the two vehicles so that they are NOT touching, apply the park brakes, put automatic transmissions in Park and manual transmissions in Neutral. Turn the ignition to Lock and switch off all lights and accessories in both vehicles, except the hazard warning flashers or any lights needed for the work area.

FLAT BATTERY cont.

3. Attach one end of the RED jumper lead to the positive terminal (**A**) of the booster battery (identified by a red colour, + or P) and the other end of the RED jumper lead to the positive terminal (**B**) of the flat battery.
4. Attach one end of the BLACK jumper lead to the negative terminal (**C**) of the booster battery (identified by a black colour, – or N) and the other end of the BLACK jumper lead to a solid stationary, metallic point on the engine (**D**) of the vehicle with the flat battery. DO NOT CONNECT DIRECTLY TO THE NEGATIVE TERMINAL OF THE FLAT BATTERY.

   WARNING:

   When making all connections take care that the jumper lead clamps do not touch each other. Also, ensure that jumper leads are not on or near pulleys, fans or other points that will move when the engine is started.



Z151L080

5. Start the engine in the vehicle with the good battery and run the engine at a moderate speed. Then start the engine with the flat battery.
6. Leave the engines running while removing the jumper leads in exactly the reverse order that they were installed. While removing each clamp, take care that it does not touch any other metal while the other end remains attached.
7. Replace any battery covers.

AIRBAGS

The vehicle is fitted with a driver's airbag, stored inside the steering wheel. 'SRS AIRBAG' is stamped on the steering wheel and a label is attached under the driver's side sunvisor.

The vehicle may also have a front passenger's airbag, stored in the dashboard. The fitment of a passenger's airbag is recognised by the wording 'SRS AIRBAG' above the glovebox and a label attached under the passenger's side sunvisor.

Some models also have Side Impact Airbags (SIAB), for the driver and front passenger, stored in the side of the seat backs closest to the door. If the vehicle is fitted with side impact airbags there will be labels on both door lock pillars and on the outside of the vehicle, as shown.

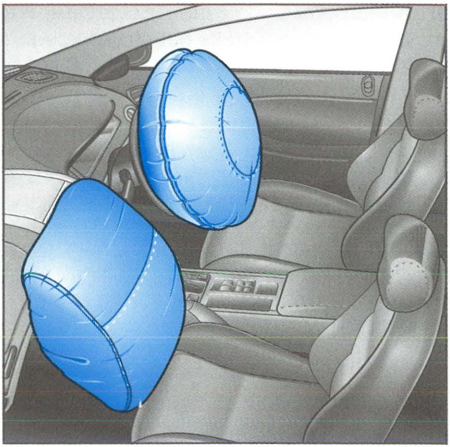
If the vehicle is fitted with two front airbags, they operate as a pair and are triggered simultaneously in the event of certain severe frontal impacts. However, side impact airbags are triggered independently.

In certain severe front end collisions, both front airbags inflate, assisting seat belts to restrain forward body movement. A side impact airbag will only trigger on the side of the vehicle that is struck.

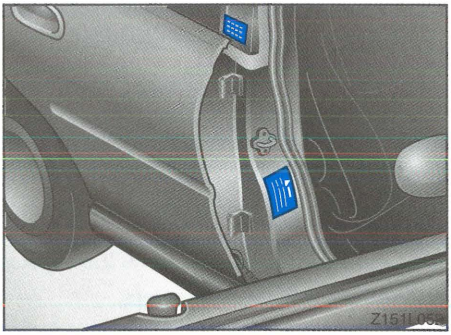
When airbags inflate an operating noise may be heard and a small amount of smoke-like gas is released. The gas is harmless and does not indicate malfunction or fire. The airbag then deflates, with the whole process taking only a moment.

WARNING:

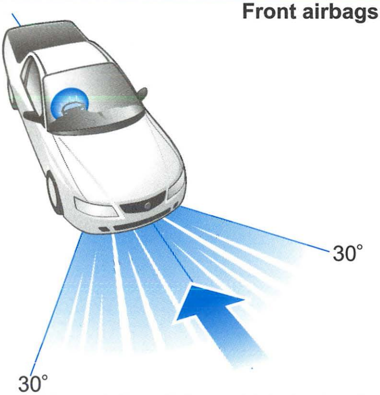
Airbags are part of the 'Supplemental Restraint System' as they assist, but do not replace seat belts. Airbags are not designed to inflate if the vehicle is hit from the rear or is overturned. **Seat belts must be worn by all passengers whenever the vehicle is moving.**



Z150R300



Front airbags



Front airbags inflate if the vehicle is struck hard, in frontal or near frontal impacts. Front airbags do not inflate if vehicle is struck from the side, rear, or in some rollovers...always wear a seat belt.

Z140R005

AIRBAGS cont.

Airbags inflate with great force. If you are too close to an inflating airbag it may cause injury. Seat belts help keep you in position for airbag inflation in the event of a collision.

Ten seconds after any airbag or seat belt pretensioner (refer to Chapter 3) has been activated (and the vehicle has stopped) the vehicle will:

- Unlock the doors.
- Turn off the engine.
- Turn off the fuel pump.
- Switch on the interior light (provided there is battery power).

Switch the ignition Off and then On if restarting the engine is required.

An SRS warning light on the instrument panel illuminates for a few seconds when the ignition is switched on. This is to indicate that the airbags are operational. If the light does not illuminate when the ignition is switched On, or if it illuminates when driving, you should contact your Holden Dealer immediately, as the airbags and seat belt pretensioners may not function correctly in the event of an accident.

The warning light will illuminate after an accident if the seat belt pretensioners, or seat belt pretensioners and airbag(s) have activated. Refer to Chapter 1, Warning / Reminder Indications for details about warning lights and fault indicators applicable to airbag and pretensioner operation.

After an accident in which the front airbag system was triggered, the airbag system (steering wheel, steering column, airbag, seat belt and control module) must be replaced. If a passenger's airbag is fitted, the airbag assembly, airbag cover, seat belt and the dash panel also need to be replaced. After side impact airbag deployment, the relevant seat, seat belt, sensor and control module require replacement. It is recommended that this work be carried out by a Holden Dealer.

WARNING:

Front passenger's airbag: The dashboard area must be kept clear. Do not place any objects over the dashboard or between an airbag and yourself. Nothing should hang from the sunvisor or mirror and a passenger must not rest their feet on the dashboard.

Driver's airbag: The horn pad must not be covered with adhesive or any other material. The driver should adjust the seat as far back as possible and sit back as far as possible while still maintaining control of the vehicle.

Side impact airbags: Do not fit unauthorised seat covers as they may impair the deployment of the side impact airbags. Do not position your body or any object (including pillows) between front seats and doors. Front seat occupants should not lean on or sleep against the door. Always sit centrally in the seat.

The system should also be inspected by a Holden Dealer if the dashboard area or steering wheel is scratched, cracked or damaged, or, if side impact airbags are fitted, the front seats are damaged.

AIRBAGS cont.

Extensive design and testing has gone into the Holden airbag system. However, it should be treated with respect. Any careless or unskilled interference with the system could lead to its failure or to accidental inflation. Any work to the electrical system, steering column, dashboard area, steering wheel, front seats (if side impact airbags are fitted) or airbag system should *only* be carried out by an authorised Holden Dealer.

ROO BAR NOTE: Fitting a roo bar can change the impact speed which would normally cause the front airbags to inflate, reducing effectiveness and potentially increasing the risk of injury and repair cost. Refer to Chapter 4 for further information about fitting a roo bar.

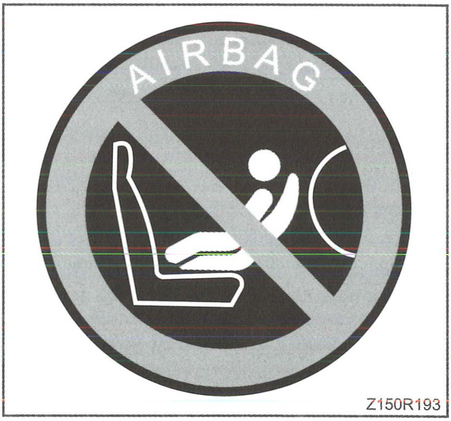
SIDE AIRBAG NOTE: The Side Impact Airbags (SIAB) will deploy and offer protection in most, but not all, severe side impacts. Because of the limited time available to detect some side impacts, it is not possible to deploy the SIAB in all serious accidents (for example, some pole impacts).

AIRBAG AND CHILD RESTRAINTS:

WARNING – EXTREME HAZARD:

- Do NOT use a rearward facing child restraint on a seat protected by an airbag in front of it. The child could be seriously injured if the airbag inflates, as the child's head would be very close to the inflating airbag.
- NEVER install a child restraint in the front seat of a vehicle fitted with Side Impact Airbags. Remember that it is safest for children to be seated in the rear seats.

Refer to 'Child restraints' in Chapter 3 for further information about fitting a child restraint.



BULB REPLACEMENT

Notes when replacing bulbs:

- Always turn off the related switch.
- It is important to fit only bulbs of the specified wattage.
- Do not touch new bulbs or reflectors with bare hands. Greasy fingers cause stains which evaporate, eventually resulting in a dull reflector. Grease spots on Halogen bulbs will, within a short time, lead to bulb failure. Clean stained bulbs with methylated spirits.

Front lights

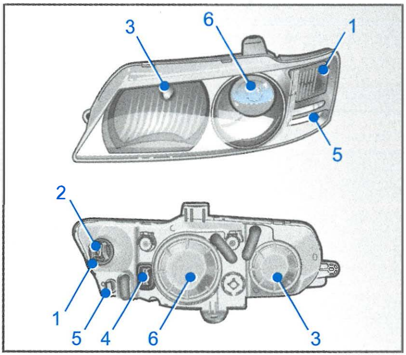
To gain access if replacing a bulb on the right-hand side: Remove the radiator cowl by placing a screwdriver under the four front scrivets. Pop the scrivets and remove the cowl. Undo the battery clamp, remove the battery retaining plate and slide the battery out of the way toward the rear of the vehicle. If the vehicle has a V8 engine and is fitted with a larger battery, the battery terminals must be disconnected, and the battery completely removed from the vehicle.

Note: After replacing the bulb on the right-hand side, remember to replace and connect the battery. Return the cowl to its original position and replace the scrivets.

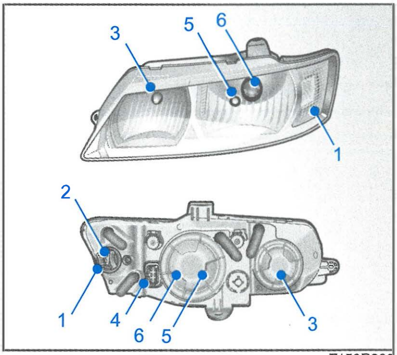
To gain access if replacing a bulb on the left-hand side of a vehicle: Remove the radiator cowl by placing a screwdriver under the four front scrivets. Pop the scrivets and remove the cowl. Pull the coolant filler bottle neck to remove it, and place it to one side. Remove the air-intake on the air filter box.

Note: After replacing the bulb on the left-hand side of a vehicle, remember to replace air-intake, coolant filler bottle neck, cowl and scrivets.

If unsure of the bulb replacement process for the front lights, please have the work carried out by a competent mechanic.



Higher luxury models



All other models

Front lights:

1. Turn signal lamp.
2. Turn signal wiring connector.
3. Headlights inboard high beam.
4. Headlight wiring connector.
5. Park lights.
6. Headlight outboard low beam.

BULB REPLACEMENT cont.

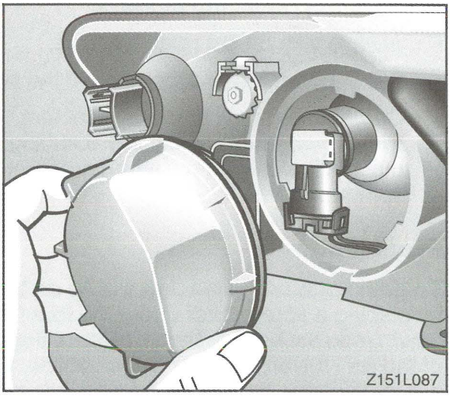
Headlights – outboard low beam

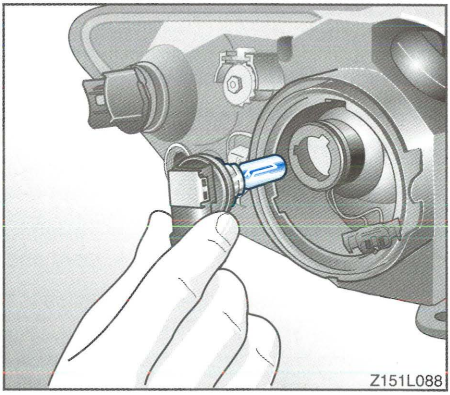
1. Open the bonnet. Refer to 'Front lights' previously described in this chapter for access instructions.
2. Turn the outboard dust cap anticlockwise and remove from the rear of the headlight assembly.
3. Remove the wiring harness connector:
    - On higher luxury model vehicles (H11 – 55 Watt bulb), squeeze the two tangs on the harness connector and pull the connector down.
    - On other models (H4 – 60/55 Watt bulb), simply pull the wiring harness connector from the rear of the bulb.
4. Remove the bulb:
    - On higher luxury model vehicles (H11 – 55 Watt bulb), simply twist the bulb anticlockwise to remove.
    - On other models (H4 – 60/55 Watt bulb), press and unclip the spring clip retainer at both sides and pivot clear of the bulb, then remove the bulb.
5. Install the new bulb.

   Note: Do not touch the new bulb with your fingers. If accidentally touched, wipe the bulb immediately with methylated spirits.

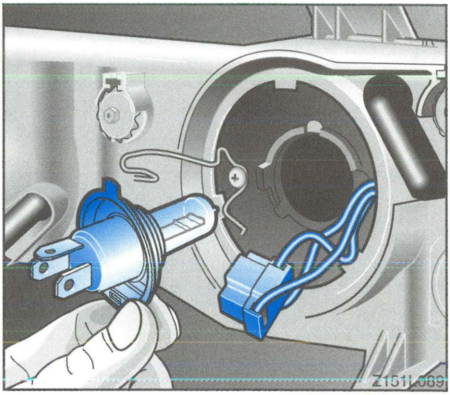
   The different sized locating tangs on the bulb base allow the bulb to sit correctly into the reflector in one position only.

    - On higher luxury model vehicles (H11 – 55 Watt bulb), simply twist the bulb clockwise to install.
    - On other models (H4 – 60/55 Watt bulb), press the spring clip retainer at both sides and lock into position.
6. Install the wiring harness connector and dust cap (ensuring the rubber seal is in place).
7. Install components removed. Refer to 'Front lights' previously described in this chapter.
8. Check light operation.





Higher luxury models



All other models

BULB REPLACEMENT cont.

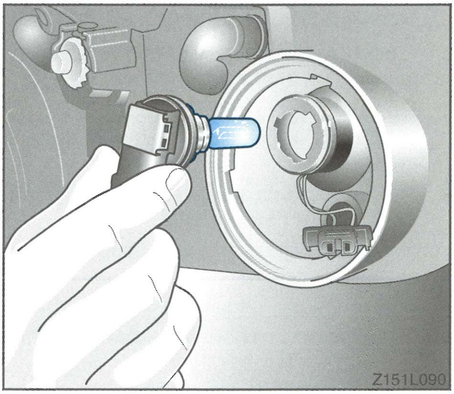
Headlights – inboard high beam

1. Open the bonnet. Refer to 'Front lights' previously described in this chapter for access instructions.
2. Turn the inboard dust cap anticlockwise and remove from the rear of the headlight assembly.
3. Remove the wiring harness connector:
    - On higher luxury model vehicles (H9 – 65 Watt bulb), squeeze the two tangs on the harness connector and pull the connector down.
    - On other models (H1 – 55 Watt bulb), simply pull the wiring harness connector from the rear of the bulb.
4. Remove the bulb:
    - On higher luxury model vehicles (H9 – 65 Watt bulb), simply twist the bulb anticlockwise to remove.
    - On other models (H1 – 55 Watt bulb), press and unclip the spring clip retainer at both sides and pivot clear of the bulb, then remove the bulb.
5. Install the new bulb.

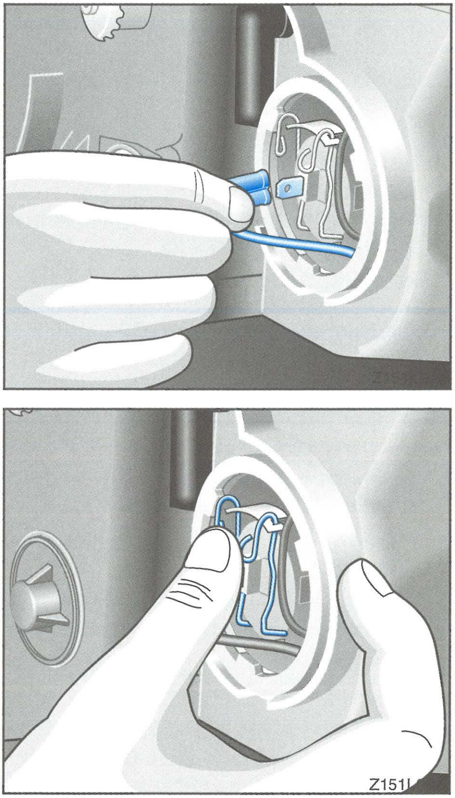
    Note: Do not touch the new bulb with your fingers. If accidentally touched, wipe the bulb immediately with methylated spirits.

    The different sized locating tangs on the bulb base allow the bulb to sit correctly into the reflector in one position only.

    - On higher luxury model vehicles (H9 – 65 Watt bulb), simply twist the bulb clockwise to install.
    - On other models (H1 – 55 Watt bulb), press the spring clip retainer at both sides and lock into position.
6. Install the wiring harness connector and dust cap (ensuring the rubber seal is in place).
7. Install components removed. Refer to 'Front lights' previously described in this chapter.
8. Check light operation.



Higher luxury models

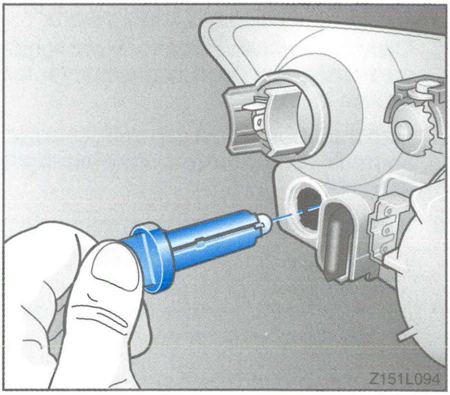


All other models

BULB REPLACEMENT cont.

Front park lights (5 Watts) – higher luxury models

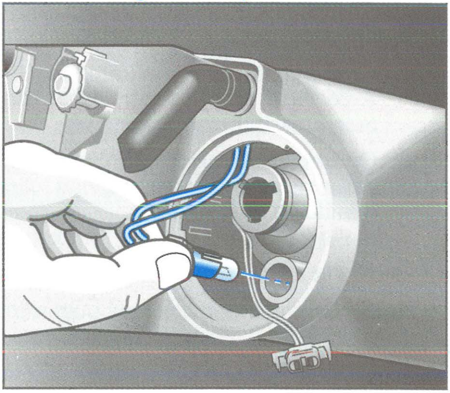
1. Open the bonnet. Refer to 'Front lights' previously described in this chapter.
2. Remove the park light bulb holder by turning it anticlockwise and pulling it straight out.
3. Remove the park light bulb by pulling it straight out of the holder.
4. Insert the new bulb into the holder, then install the holder.
5. Install components removed. Refer to 'Front lights' previously described in this chapter and check light operation.



Higher luxury models

Front park lights (5 Watts) – all other models

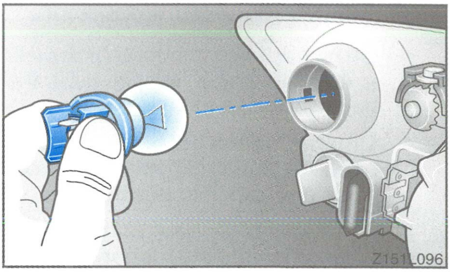
1. Open the bonnet. Refer to 'Front lights' previously described in this chapter.
2. Remove outboard low beam dust cover to access bulb.
3. Remove the park light bulb holder by turning it anticlockwise and pulling it straight out.
4. Remove the park light bulb by pulling it straight out of the holder.
5. Insert the new bulb into the holder, then install the holder and dust cap (ensuring the rubber seal is in place).
6. Install components removed. Refer to 'Front lights' previously described in this chapter and check light operation.



All other models

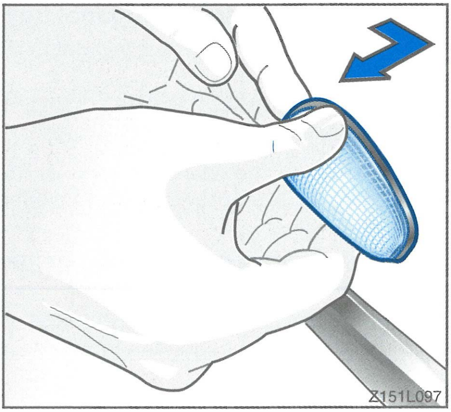
Front turn signal (21 Watts)

1. Open the bonnet. Refer to 'Front lights' previously described in this chapter.
2. Disconnect the wiring harness connector.
3. Turn the bulb holder anticlockwise and remove.
4. Lightly press the bulb and twist anticlockwise out of the holder.
5. Insert the new bulb and install the bulb holder. Ensure that the same colour bulb is used. Some models have amber bulbs instead of clear.
6. Connect the wiring harness connector.
7. Install components removed. Refer to 'Front lights' previously described in this chapter and check light operation.



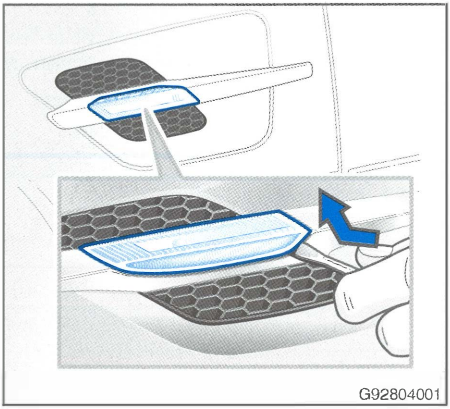
BULB REPLACEMENT cont.

Side turn signal (5 Watts)



1. Grasp the lens at the rear, push forwards and pull away from the body of the vehicle.
2. Separate the bulb holder from the lens assembly by first rotating the bulb holder anticlockwise.
3. Disconnect the wiring harness connector. The bulb pulls straight out of the bulb holder.
4. Insert the new bulb into the bulb holder. Install the bulb holder into the lens housing. Note that the bulb holder only fits into the lens housing one way. Therefore, keep turning the bulb holder clockwise until it fits into place and can be tightened.
5. Connect the wiring harness connector.
6. When inserting the light, first locate the rear of the housing into the body before pushing the front inwards to engage the clip.
7. Check light operation.

Side turn Signal (5 Watts) – Fender Vent



1. Using a flat-bladed screwdriver, carefully lever the front side turn signal lamp assembly forward, then outwards and away from the front fender vent assembly.
2. Separate the bulb holder from the lens assembly by first rotating the bulb holder anticlockwise.
3. Disconnect the wiring harness connector. The bulb pulls straight out of the bulb holder.
4. Insert the new bulb into the bulb holder. Install the bulb holder into the lens housing. Turn the bulb holder clockwise until it fits into place and can be tightened.
5. Connect the wiring harness connector.
6. When inserting the front side turn signal lamp, first locate the rear of the housing into the fender vent assembly before pushing the front inwards to engage the clip.
7. Check light operation.

Rear high mount stop light ✻

The vehicle is fitted with a sealed high mount stop light. For replacement, contact your nearest Holden Dealer.

BULB REPLACEMENT cont.

Fog lights ❃, instrument panel lights

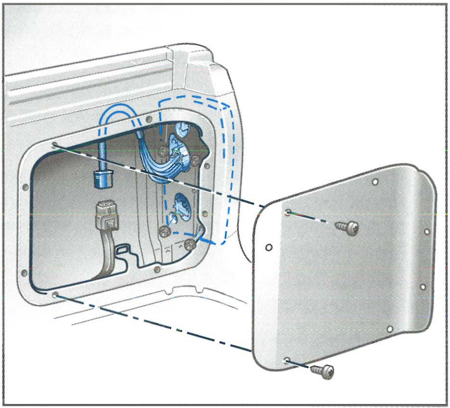
Bulb replacement for these light assemblies should be carried out by a Holden Dealer.

Rear turn signal (21 Watts), stop / tail (21/5 Watts), reverse (21 Watts)

1. Open the tailgate.
2. From inside the rear tray, remove the rear light cover screws and remove the rear cover.
3. Rotate the required bulb holder anticlockwise and pull outwards.

   The bulb holders are colour coded as follows, and the sequence from the top downwards is:

   - White – Reverse (clear bulb)
   - Orange – Turn signal (amber bulb)
   - Red – Stop / Tail (clear bulb)



Z170R061

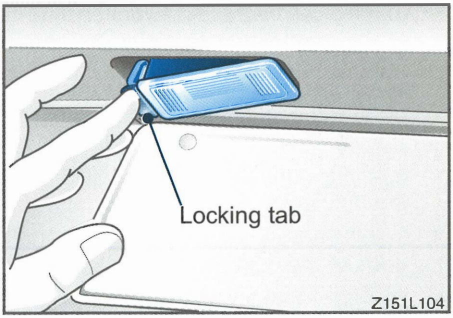
4. Lightly press the bulb and rotate it anticlockwise to remove it from the holder.
5. Install the new bulb in the holder by lightly pressing the bulb and rotating it clockwise.
6. Install the bulb holder into the lamp assembly by rotating it clockwise.
7. Install the cover and cover screws.
8. Check light operation.

BULB REPLACEMENT cont.

Number plate (5 Watts)

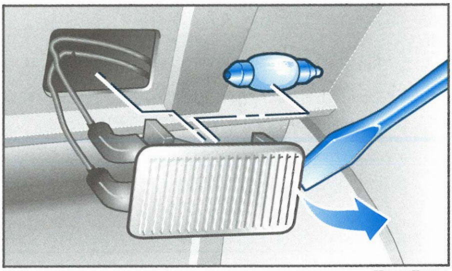
1. Push the locking tang at the end of the lamp housing towards the lens and pull the lamp assembly downwards.
2. Remove the bulb holder from the lamp housing by rotating the bulb holder anticlockwise. Pull the bulb out of the bulb holder.
3. Push the new bulb into the bulb holder. Install the bulb holder into the lamp housing by rotating the bulb holder clockwise, ensuring that the seal is undamaged.

   Note: The lamp assembly can only be fitted into the licence plate surround in one direction.
4. Install the lamp assembly into the surround.
5. Check light operation.



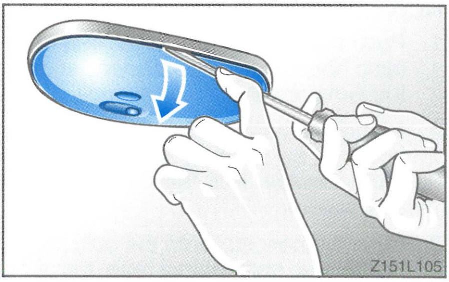
Glovebox (5 Watts ✻)
Rear reading (6 Watts ✻)

1. Gently prise away the lens housing with a fine flat-bladed screwdriver.
2. Pull the tab holding the bulb (opposite end to wiring) backwards and pull the bulb out. To install the new bulb, first pull the tab backwards. When the new bulb is in place, feed the wiring back into the cavity and push the lens housing back into place.



BULB REPLACEMENT cont.

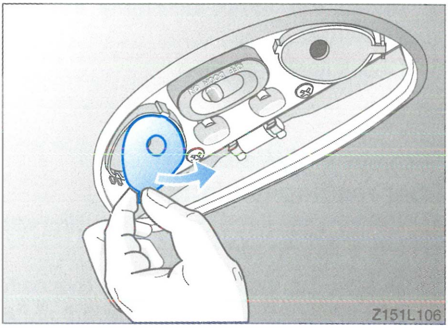
Interior dome (10 Watts)



1. Insert a fine bladed screwdriver into one of the notches on the lens and gently prise the lens away from the lamp assembly. Use the screwdriver in the other three notches to remove the lens.
2. Remove the bulb by bending the contacts out from the bulb while pulling the bulb down.
3. Install the new bulb and ensure that both ends of the bulb are firmly in place.
4. Carefully install the lens on to the assembly, ensuring that it snaps into place. Check that the lens is flush with the lamp assembly.

Front reading – dome (8 Watts ✻)

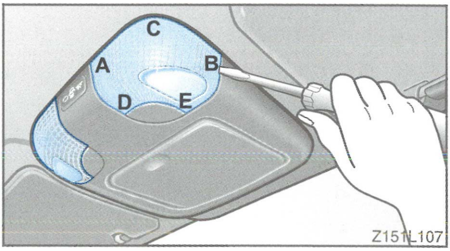
Front reading lights for some models of vehicle are fitted in the dome light assembly.



1. Remove the lens of the dome light, as described for the interior dome light.
2. Remove the reading light cover plates by gently pulling the thin tab down.
3. Pull out the bulb by hand.
4. Install the new bulb and ensure that both ends of the bulb are firmly in place.
5. Install the cover plates (large end in first) and click firmly into place.
6. Install the dome lens and push back into place with your hand.

Roof console interior dome and front reading – (10 Watts ✻)

The interior dome lights and front reading lights in crew cab models are part of the roof console sunglasses holder assembly located centre-front of the roof's interior.



1. Loosen the cover of the reading light by levering with a fine blade screwdriver at point A and then point B, as shown.
2. To remove the cover, pull it downwards from point C to disengage the retaining clips at points D and E.
3. Carefully press the bulb and rotate it anticlockwise to remove it.
4. Install the new bulb by carefully pushing it into the holder and rotating it clockwise.
5. Install the cover by first inserting the edge at points D and E, then clipping it back into place at point C.

CHAPTER 7

Weekly checks

Page
7-2 Miscellaneous checks
7-3 Check locations
7-4 Engine oil level
7-5 Engine oil consumption
7-6 Engine coolant level
7-8 Automatic transmission fluid level
7-9 Washer fluid level
7-10 Brake fluid level
7-11 Clutch fluid level
7-12 Power steering fluid level
7-13 Tyres
7-16 Battery
7-17 Trolley jack locations

✻ The asterisk signifies equipment options not in all vehicles (model variants, engine options, optional equipment and Genuine Holden Parts and Accessories).

MISCELLANEOUS CHECKS

As well as taking the vehicle to be serviced (refer to the service booklet in the vehicle's glovebox) there are a few simple, weekly checks that the owner / operator is recommended to make. These are shown on the following pages.

WARNING:

- If the engine temperature is high, the cooling fan may remain on for several minutes after turning off the ignition. Therefore, the engine cooling fan can start working unexpectedly, even when the engine is not running and the ignition is off.
- Electronic ignition systems have a high ignition power. Do not touch the ignition system; this could be highly dangerous.

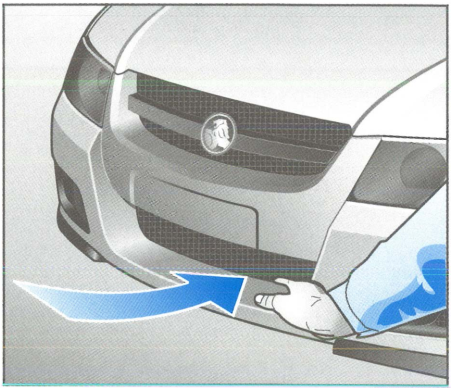
Perform the following checks regularly to ensure safety of the vehicle.

Check:

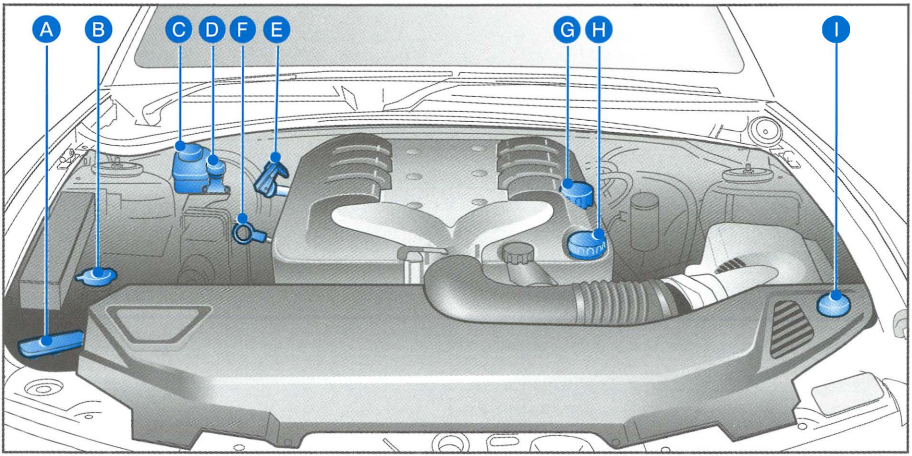
- That all exterior lights are working and their appropriate interior indicators illuminate.
- Mirrors and glass are clean and not scratched.
- Automatic transmission gear selector indicator correctly lines up next to the gear selected.
- Demister operates.
- Horn works.
- Condition and operation of all seat belts.
- Seat belt buckles are clean and operating correctly. Remember that seat belts must never be worn twisted.

Note: Check the air intake area below the front bumper for the build-up of leaves and road grime. Any build up can impair the engine cooling efficiency of the vehicle.

Clear this area of debris whenever the vehicle is washed.



CHECK LOCATIONS


A
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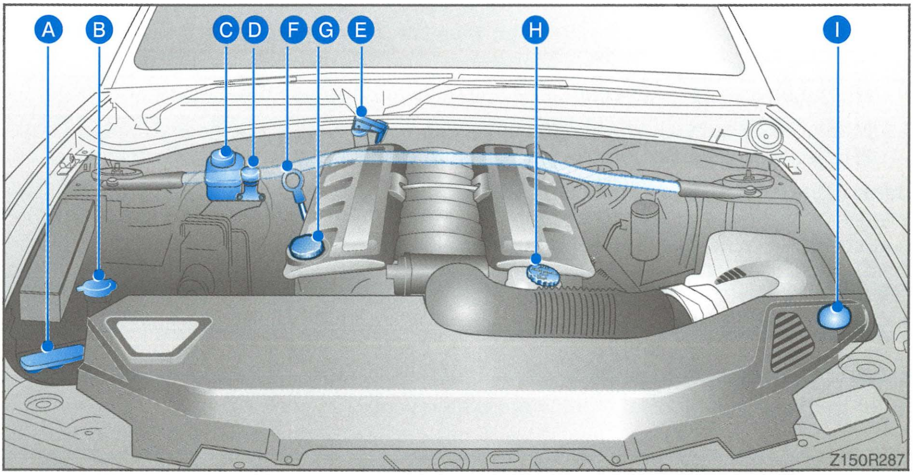
V6 engine

Ⓐ	Battery	page 7-16
Ⓑ	Windscreen washer fluid	page 7-9
Ⓒ	Brake fluid	page 7-10
Ⓓ	Clutch fluid (if manual transmission ✻)	page 7-11
Ⓔ	Dipstick automatic transmission ✻.	page 7-8
Ⓕ	Dipstick for engine oil	page 7-4
Ⓖ	Engine oil cap	page 7-4
Ⓗ	Power steering fluid	page 7-12
Ⓘ	Engine coolant	page 7-6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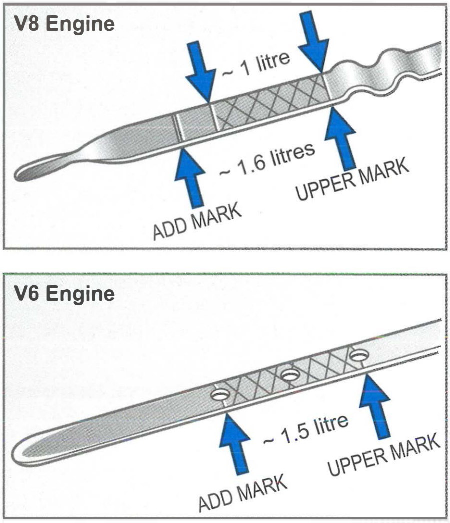
V8 engine

ENGINE OIL LEVEL

Check the oil level weekly.

The level is checked with the dipstick. Refer to previously in this chapter for engine oil dipstick location.



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To check the engine oil level

Check the level when the oil is warm, such as when stopping for fuel.

The vehicle must be on level ground.

1. After switching off the ignition wait at least 10 minutes for the oil to settle.
2. Remove the dipstick and wipe it clean with a clean cloth or paper towel. Insert the dipstick firmly all the way down, pause for several seconds then withdraw the dipstick and look at the oil level on it.
3. If the level is lower than the ADD mark, top up with enough oil to reach the UPPER mark. Take care not to add too much, as the reading should never be over the UPPER mark.

To add engine oil

Refer to Chapter 8 for engine oil specification.

1. Turn the oil cap anticlockwise and remove. Refer to perviously in this chapter for oil cap location.
2. Pour the required oil into the opening (clean up any spilled oil).
3. Wait a few minutes for the oil to settle, then check the oil level with the dipstick again. If still too low, add more oil.
4. When correct, screw the cap back on tightly and replace the dipstick.
5. If the oil level is checked when the oil is cold, do not run the engine first. Cold oil does not drain back into the oil pan fast enough to give an accurate reading.

Note: Non-detergent and other low quality oils are specifically not recommended. The use of break-in oil, tune up compounds, friction reducing compounds and other supplemental additives are not recommended. Their use increases costs, may be detrimental to the operation of the vehicle and may void the New Vehicle Warranty, to the extent that Holden considers the non-recommended fluid to have affected the specifications or quality of the vehicle.

Engine oil change intervals

Refer to the service booklet in the vehicle's glovebox.

ENGINE OIL CONSUMPTION

Every internal combustion engine uses a certain amount of oil, especially when running-in. The engine is dependent on oil for lubricating critical areas, such as the cylinder walls, pistons, rings and valve stems. These parts are all subjected to high friction loads and will prematurely wear out without a constant supply of engine oil. A thin film of oil is left on the cylinder walls, some of which is carried into the combustion chamber and burnt during the combustion process. This also applies to the film of oil on the valve stems which is drawn into the combustion chamber and burnt.

There are several other factors that contribute to the rate of oil consumption in the vehicle's engine: the way in which the vehicle is operated; the quality and grade of oil; the oil level and dilution of the oil; worn pistons, rings, valve stems and guides.

Operation of the vehicle: High speed driving and heavy towing increases engine temperature, which lowers oil viscosity, causing more oil to reach the combustion chamber and get burnt away. Always check the oil level prior to towing or going on a long trip.

Quality and grade of oil: Oil viscosity is a significant factor in oil consumption. If an oil which is too 'thin' (low viscosity) is used, the oil consumption will increase. Use only the recommended grades of oil.

Oil level: Maintaining a proper oil level is also an important factor in controlling oil consumption. An over-full engine will splash oil onto the cylinder walls in quantities greater than the piston rings can control. This excess oil is drawn into the combustion chamber and burnt, or may result in aeration of oil in the sump causing damage to the engine.

Dilution: When a vehicle is frequently driven on short trips, the engine often fails to reach normal operating temperatures. The oil becomes diluted by fuel and moisture that settles in the oil pan. This may raise the oil level creating a false reading on the oil level dipstick. For example, in a vehicle that has accumulated 1500 km of short distance or intermittent city operation and has consumed a normal amount of oil, the level may not have dropped from the UPPER mark, due to dilution. If this vehicle is driven for some distance at highway speeds on a warm day, the dilution elements evaporate lowering the oil level. This sudden change in oil level can give the driver the impression that an excessive amount of oil has been lost in the highway operation.

Measuring oil consumption: A simple consumption test can be performed if the driver is concerned by an apparent drop in the oil level.

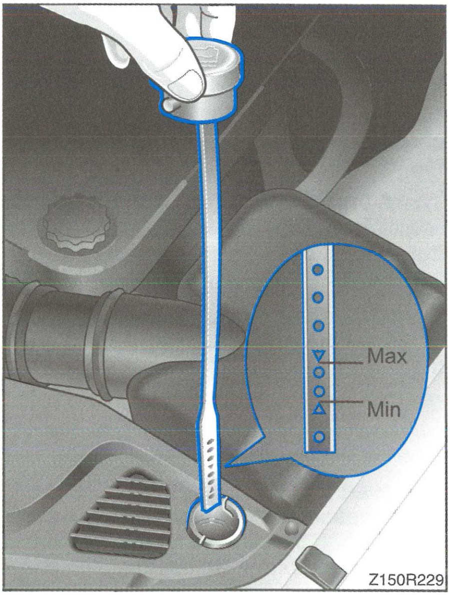
Add sufficient oil to bring the level up to the UPPER mark on the dipstick (avoid overfilling). Take note of the odometer reading and check the oil periodically. When the level reaches the ADD mark, carefully measure the amount of oil required to return the level back to UPPER mark and note the odometer reading. The amount of oil added for the kilometres travelled over the duration of the test indicates the oil economy of the engine. Remember to check the oil level at the start and finish of the test on level ground and allow time for oil to drain down (approximately 10 minutes after engine is turned off). Avoid minor top-ups (0.25 to 0.5 litre) when measuring oil consumption, as inaccuracies of oil quantity added, may cloud the result.

If, after taking into account the above factors, you are still concerned that your engine has excessive oil consumption then consult your Holden Dealer. Remember that an engine's oil consumption should not be judged until it has run at least 10 000 km.

ENGINE COOLANT LEVEL – V6

Check the coolant level at least once a week.

The cap for the coolant reservoir is yellow and has the word 'COOLANT' marked on the top. Refer to previously in this chapter for coolant reservoir location.



To check the coolant level

1. Ensure the ignition is switched off.
2. Turn the coolant dipstick cap one-eighth of a turn anticlockwise and slowly pull out the dipstick. There are two triangles on the dipstick, representing Maximum and Minimum fluid levels.
3. When the engine is cold, the coolant level should be at or above the Minimum triangle mark on the dipstick. After the vehicle has been driven and the engine is at normal operating temperature, the level should be somewhere between half full and the Maximum triangle mark.
4. If the coolant level is correct, replace the dipstick and turn the cap one-eighth of a turn clockwise to secure.

To add coolant

Refer to Chapter 8 for engine coolant specifications and water-to-coolant ratio.

1. Mix a solution of Holden coolant and clean fresh water in a container as per the ratio specified.

   Note: Failure to use the coolant or maintain the specified concentration may result in voiding the New Vehicle Warranty.
2. Pour the fluid into the coolant dipstick tube (the same opening as the coolant dipstick is stored in). Again check the level with the dipstick and add further fluid if necessary.
3. When the level is correct, replace the dipstick and turn the cap one-eighth of a turn clockwise to secure.

   Note: The dipstick should only be replaced one way. The word 'COOLANT' on the cap should be able to be read from the front of the vehicle. If the wording is facing the rear of the vehicle the dipstick should be turned 180 degrees and then secured.

In emergency situations, plain clean fresh water may be used temporarily until the correct Holden coolant is obtained (as soon as possible) from the nearest Holden Dealer.

Note: If the coolant requires regular topping up, it could indicate that there is a leak or a fault. Contact your Holden Dealer as soon as possible.

ENGINE COOLANT LEVEL cont.

The specified coolant works in three ways:

- It contains special corrosion inhibitors.
- It helps the cooling system in hot weather by increasing the boiling point.
- It protects against freezing down to –37°C, provided the specified concentration is maintained.

WARNING:
Corrosion inhibitors and antifreeze fluids are poisonous. Use extreme care when handling. If swallowed, seek medical attention. Do not remove the coolant reservoir cap if the engine and radiator are still hot. Scalding fluid and steam can be blown out under pressure which could cause serious burns.

Refer to ‘Engine Overheating’ in Chapter 6, if the engine overheats or loses a lot of coolant.

AUTOMATIC TRANSMISSION FLUID LEVEL ✻

Check the fluid level at least once a month.

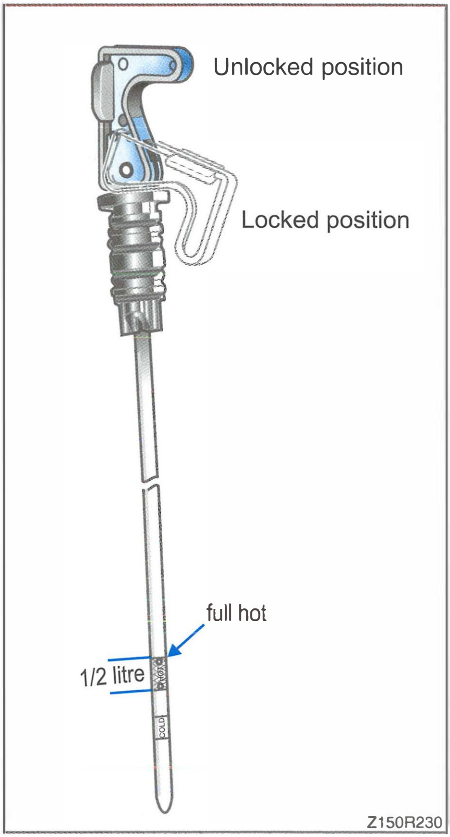
The dipstick handle on vehicles fitted with 4-speed automatic transmissions is located at the rear of the engine compartment, on the right side. Refer to previously in this chapter for automatic transmission dipstick location.

Note:

- Dirt in the transmission can cause breakdowns, so be careful when checking or adding fluid.
- Check the fluid after the vehicle has been driven for at least 20 kilometres so that the fluid is hot.

To check transmission fluid level

1. Park the vehicle on level ground with the engine running.
2. Ensure the transmission gear selector is in Park and the park brake is applied.
3. Unlock the handle and remove the dipstick.
4. Wipe it clean with a clean cloth or paper.
5. Insert dipstick fully once more.
6. Remove it again and read the fluid level. The fluid level should be showing on the crosshatched Hot area. The level should never read over the full Hot mark.



To add transmission fluid

Use only Holden specified automatic transmission fluid. Refer to Chapter 8, Specifications for the correct type.

1. Add the fluid in the dipstick tube (the same opening as the dipstick is stored in).
2. Wait 1 minute for the oil to settle (clean up any spilled fluid).
3. Check the level on the dipstick with the engine running and add further fluid if necessary. Remember to always replace the dipstick and lock the handle down.

If the transmission fluid requires constant topping up, it could indicate that there is a leak or a fault. Contact your Holden Dealer.

Note: The cold markings on the dipstick should only be used as an indication when initially filling the transmission after the fluid has been completely drained. It should be re-checked when hot.

WASHER FLUID LEVEL

The washer fluid reservoir is located in the engine compartment, near the battery. It has a flip top yellow cap. Refer to previously in this chapter for washer fluid reservoir location.

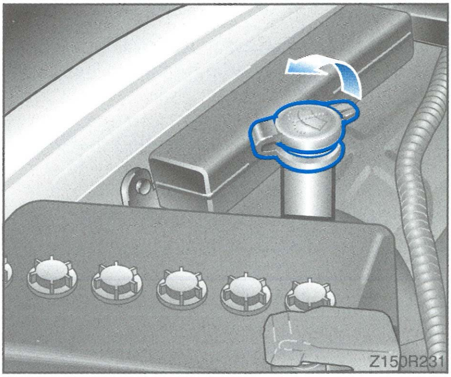
The container shown supplies water to the front windscreen washer.

As washer fluid is constantly used, top up the level weekly.

For a crystal clear windscreen, the correct amount of Holden washer fluid additive can be added. Refer to Chapter 11, Cleaning.

Note: Do not use ordinary soap or detergent as these not only froth up but also damage the wiper rubbers.

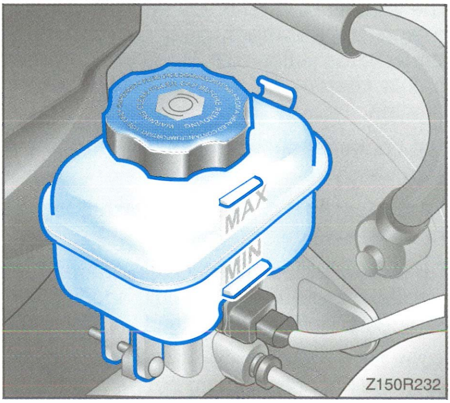
Make sure the cap is secured.



BRAKE FLUID LEVEL

WARNING:
Brake fluid is poisonous and corrosive and will damage the paint finish of the vehicle if spilt.

Check the brake fluid level in the master cylinder reservoir weekly.



To check the brake fluid level

The fluid level is visible through the brake master cylinder reservoir. Refer to previously in this chapter for master cylinder reservoir location.

Maintain the level between the MIN and MAX markings.

If the fluid is between these levels do not remove the master cylinder cap, as brake fluid exposed to the atmosphere will quickly absorb moisture.

To add brake fluid

1. Ensure that the ignition is switched off.
2. Wipe the sides of the cap clean and remove the cap.
3. Top up with heavy duty brake fluid which meets Holden specifications. Refer to Chapter 8 for the correct specification.

   WARNING:
   Use only new brake fluid. Use of old, used or inferior brake fluid may endanger the functioning of the brake system.

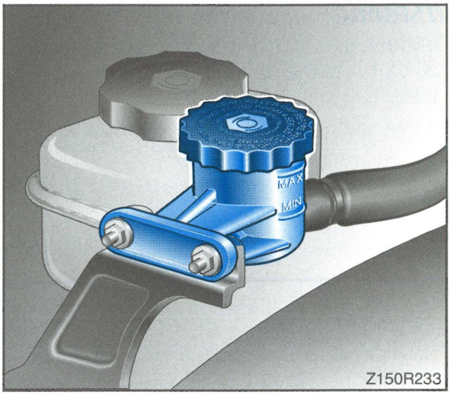
4. Secure the cap and clean up any spilled fluid.

Note: If the master cylinder requires constant topping up it could indicate that a fault exists. Contact your Holden Dealer immediately.

CLUTCH FLUID LEVEL ✱

WARNING:
Clutch fluid is poisonous and corrosive and will damage the paint finish of the vehicle if spilt.

Check the clutch fluid level in the master cylinder reservoir weekly.



To check the clutch fluid level

The fluid level is visible through the clutch master cylinder reservoir. Refer to previously in this chapter for master cylinder reservoir location.

Maintain the level between the MIN and MAX marks.

If the fluid is between these levels, do not remove the cap, as the fluid will quickly absorb moisture if exposed to the atmosphere.

To add clutch fluid

1. Ensure that the ignition is switched off.
2. Wipe clean the sides of the cap and remove the cap.
3. Top up with heavy duty brake fluid which meets Holden specifications. Refer to Chapter 8 for the correct specification.

   WARNING:
   Use only new fluid. Use of old, used or inferior fluid may endanger the functioning of the clutch system.

   Note: Both the clutch system and the brake system use heavy duty brake fluid.
4. Secure the cap and clean up any spilled fluid.

Note: If the clutch fluid requires constant topping up, it could indicate that a fault exists. Contact your Holden Dealer.

POWER STEERING FLUID LEVEL

Check the level after the vehicle has been driven for a while (at least 20 minutes) so that the fluid is warm. A convenient time is when stopping for fuel. The cold level check should only be used after the engine has not been running for at least 5 hours. However, the hot level check is always recommended.

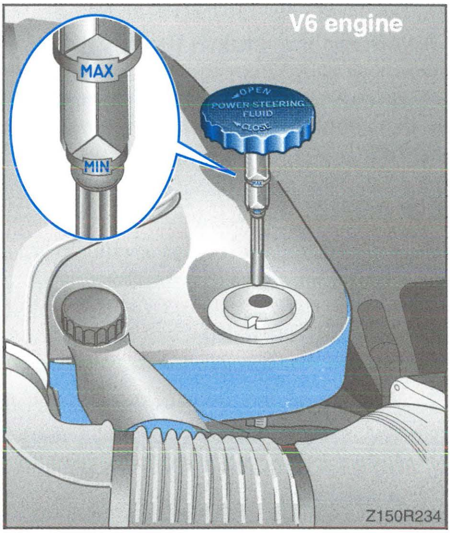
Refer to previously in this chapter for power steering reservoir location.

To check power steering fluid level

1. Wipe the sides of the cap clean.
2. Undo the cap anticlockwise to the safety stop; push down on the cap and turn it further anticlockwise, until the cap can be lifted off. The MIN (cold) and MAX (hot) level markings are on the dip stick attached to the cap.

   Note: The fluid level on vehicles fitted with V8 engines can also be viewed through the transparent reservoir. The MIN / MAX level markings are on the side of the reservoir.

   When the engine is hot, the level should be at the MAX level.
3. If the level is getting close to the MIN mark when the engine is cold, add enough fluid to bring the level to half way between the two marks.

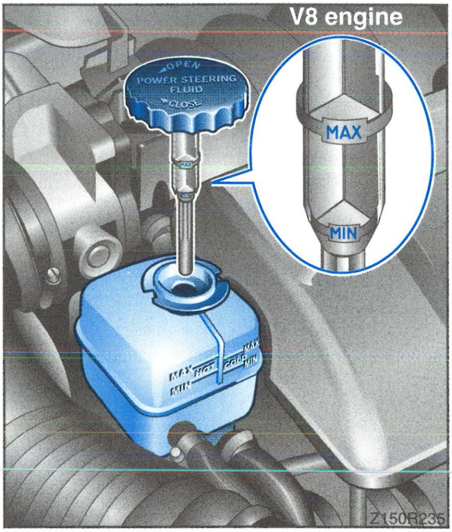


To add power steering fluid

Refer to Chapter 8, Specifications for the correct power steering fluid to use.

1. Ensure the ignition is switched off.
2. Top up with power steering fluid which meets Holden specifications. Do not overfill the reservoir.
3. Secure the cap and clean up any spilled fluid.

Note: If the power steering fluid requires constant topping up, it could indicate that a fault exists. Contact your Holden Dealer.



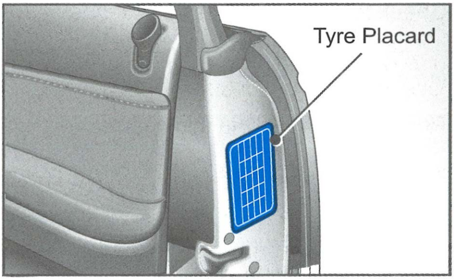
TYRES

Air pressure

Weekly checking of the air pressure of the tyres (including the spare) ensures your safety, as well as reducing fuel consumption and increasing the life of the tyres.

For constant long distance or rough road driving, daily checking is recommended.

The correct pressure for the tyres is shown on the tyre placard on the driver's door.



Z150R311

Increase the inflation pressure in the tyres according to the load on the vehicle.

If the vehicle is heavily loaded, the recommended pressure for the tyres is increased (refer to the tyre placard on the vehicle). Because the tyres are operating under a greater load, the weekly air pressure check becomes even more important.

Tyre inflation pressure increases when the tyres have been driven more than 2 km. Therefore, the pressure should be checked when the vehicle has been stationary for over 3 hours. If they must be checked immediately after driving, increase the pressure shown on the placard by 10%.

Therefore, if the vehicle is loaded to half the maximum payload (as shown in Chapter 10), then the tyres should be inflated half way between the minimum and maximum pressures given on the tyre placard.

Vehicles driven for prolonged periods over rough roads, particularly in desert conditions, should use the cold tyre inflation pressure on the tyre placard for maximum load condition.

Always use a tyre pressure gauge to check the tyres; simply looking at the tyres is not sufficient. If the pressure is too low, this can result in considerable tyre warm-up and internal damage, leading to tread separation and even to tyre blowout at high speeds. If the pressure is too high, this can result in reduced traction, increased risk of tyre blowout and poor tyre wear.

Remember to replace any valve dust caps or extensions, as this stops dirt and moisture from fouling the valves.

When checking the tyre air pressure, take a look at the condition of the tyre tread and inspect for stones or abnormal wear.

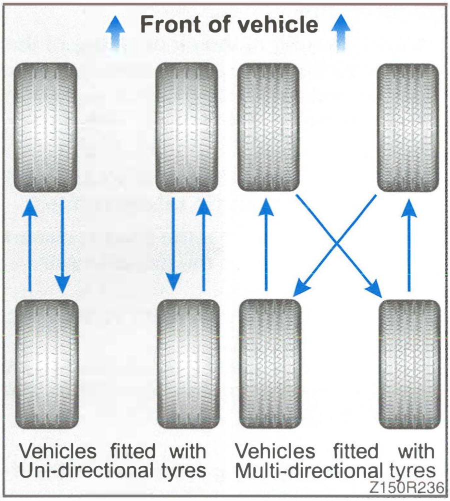
TYRES cont.

Tyre rotation

Front and rear tyres perform different jobs and can wear differently depending on factors such as; the types of roads driven on, driving habits, tyre pressures, wheel alignment and balance. Tyre condition is checked when the vehicle is serviced by a Holden Dealer. They are able to diagnose any unusual signs of wear. If the tyres are rotated it is recommended that the balance be checked at the same time.

WARNING:

The forward rotation direction of the Unidirectional tyres must match the Direction of Rotation Arrow on the sidewall of tyre.


Front of vehicle
Vehicles fitted with Uni-directional tyres
Vehicles fitted with Multi-directional tyres
Z150R236

Alignment and balance

Improper wheel alignment can cause the tyres to wear faster and unevenly. It can also cause the vehicle to pull to one side.

Out-of-balance wheels and tyres can cause annoying vibration and uneven tyre wear. If you suspect any of these problems exist, have a wheel alignment and balance check carried out by your Holden Dealer.

Replacement and repair

Replacing the factory fitted wheels and tyres with non-specified wheels and tyres may affect the New Vehicle Warranty as well as the vehicle's insurance policy. Refer to the tyre placard on the vehicle for tyre size and load rating. Using a different size or type of tyre may affect such things as ride, handling, speedometer, vehicle ground clearance, tyre clearance or snow chain clearance.

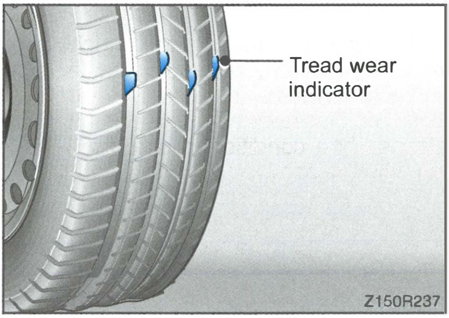
Take care when using tyres with heavy treads, including tyres made for better grip in the wet. At sustained high speeds, this type of tyre runs at higher temperatures than standard tyres and consequently should only be operated within the limits recommended by the manufacturer. Any doubts about the tyres on the vehicle should be referred to your Holden Dealer.

Tyres with a higher speed or load rating are acceptable, provided they are fitted to a suitable rim size.

New tyres should be fitted in pairs to the front. If replacing only one tyre, it should be paired on the same axle with the least worn of the other three.

TYRES cont.

Tyres should be replaced when:



- They are worn to the point where the tread indicators appear, or the cord or fabric is showing. The tyres originally fitted to the vehicle have built-in tread indicators. When only 1.5 mm of tread remains, these indicators show as plain bars across the tread pattern at regular intervals around the tyre.
- The tread or sidewall is cut, split, or cracked deep enough to expose the cord or fabric.
- The tyre has a bump or bulge in it, indicating some kind of internal damage.
- The tyre has a puncture, cut or other damage which can not be repaired because of the size or location of the damage.

Do not attempt to drive on the flat tyre more than is necessary to stop safely. Driving even a short distance can damage the tyre and wheel beyond repair. Tyres which have been repaired or retreaded are not capable of being driven safely at high speeds. Therefore, their use is not recommended.

BATTERY

WARNING:

- Batteries emit an explosive gas mixture which may be ignited. Therefore, you should keep sparks and flames away from the battery at all times. Never smoke near a battery.
- Batteries contain sulphuric acid. If acid contacts skin or clothing, flush immediately with plenty of water. In case of eye contact, flush with plenty of water and contact a doctor immediately. Battery acid also damages paint and fabrics. To minimise damage, wash off immediately.
- Take care with all metal objects and tools including items you may wear (for example jewellery, rings and metal watch bands) near battery terminals.

Fluid level check

The fluid level of the battery is checked when the vehicle is serviced by a Holden Dealer. If the vehicle is operated in hot temperatures or at constant high speed the battery fluid level should be checked each month.

When checking the battery level, make sure the engine is not running. Each of the six cells must be individually checked. Use distilled water, as required, to keep the level just below the bottom of each split tube. DO NOT OVER FILL.

Vehicles with V8 engines have a battery cover to keep the battery cool. The cover should always be securely in place when driving.

Replacement battery

Refer to Chapter 8, Specifications, for the correct replacement battery specification.

Battery disconnection

The battery is recharged by the alternator when the engine is running. If the engine is not run for approximately 6 weeks, the battery will discharge, due to the power required by systems such as the security system. If the battery is disconnected it will still discharge after approximately 12 weeks.

If the battery is disconnected when leaving the vehicle for a long period of time, it is recommended that the battery be 'trickle fed' on a battery charger overnight, before installing it back into the vehicle.

If the battery is disconnected for any reason:

- Some trip computer displays will be reset; trip time, trip distance, fuel used, average fuel, average speed and stop watch.
- The personal identity key system ✻ may “forget” some settings. Your adjustments will be remembered by the key next time you adjust the feature. Refer to chapter 2.
- The rear lamp failure warning light will also illuminate on the instrument cluster if the battery is disconnected, even if the lamp is in full working order. Please have this reset by your Holden Dealer.

Refer to Chapter 6 for emergency starting when the battery is flat.

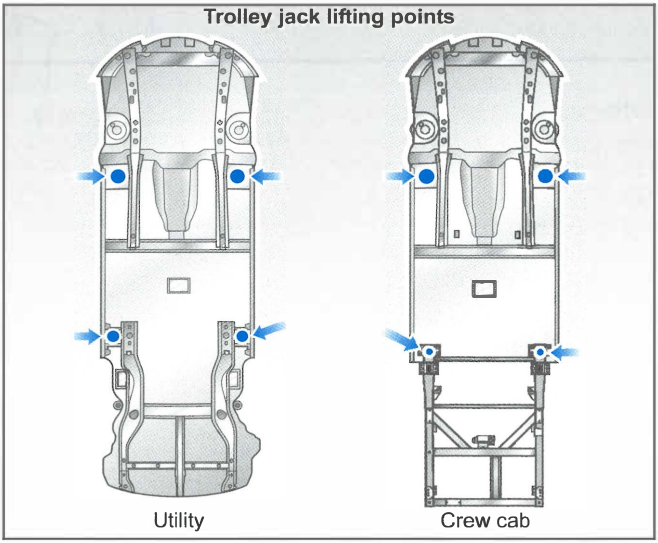
TROLLEY JACK LOCATIONS

Always use the jack locations shown in Chapter 6 when using the original jack supplied with the vehicle. This jack has been designed to correctly and safely lift the vehicle, provided the warnings in Chapter 6 are observed.

However, if using a trolley jack to raise the vehicle, it is important that the jack be positioned under the suspension cross member or hoist pad locations.

Note: Do not jack under the suspension control arms.

The vehicle should always be supported by jack stands when raised.



Z140R002

CHAPTER 8

Specifications

Page
8-2 Specifications
  Lubricants and fluids
  Power and torque
  Capacities
8-3 General specifications
  Dimensions
  Body lubricants
8-4 Identification labels

✻ The asterisk signifies equipment options not in all vehicles (model variants, engine options, optional equipment and Genuine Holden Parts and Accessories).

SPECIFICATIONS

Engine Type	ALLOYTEC V6	GEN IV V8
Engine capacity	3564 cc	5967 cc
Engine power and torque	Please refer to http://www.holden.com.au	
Engine oil specification	Use SAE 5W or 10W/30 SL GF-3 oil.	
Refill engine oil capacity	6.4 litres approximately (including filter)	6.2 litres approximately (including filter)
Coolant specification	50% clean fresh water and 50% Extended life anti-freeze coolant conforming to Specification Number GM 6277M, Part Number 92145527 (5 litre).	
Coolant capacity	10 litres approximately	11 litres approximately
Auto trans fluid	Dexron® III	
Refill auto trans capacity	4.8 litres approximately	5 litres approximately
Manual transmission fluid	Refer to your Holden Dealer	Dexron® III
Brake and clutch fluid	Heavy duty brake fluid, conforming to Holden Specification Number HN 1796 (Super DOT 4)	
Power steering fluid	Dexron® III	
Fuel tank capacity	70 litres (utility), 64 litres (crew cabs)	
Battery	Low maintenance, 12 volt, 85 minutes reserve capacity, 430 Cold Cranking Amps (CCA)	

GENERAL SPECIFICATIONS

Dimensions (mm)

	Utility - Base	**Utility - S**	**Utility - SS**
Length	5052	5058	5058
Width (with mirrors)	2046	2046	2046
Height	1487	1488	1457
Wheel base	2939	2939	2939
Front overhang	939	944	944
Rear overhang	1174	1176	1176
Front track – steel wheels – alloy wheels	1569 -	- 1559	- 1559
Rear track – steel wheels – alloy wheels	1577 -	- 1587	- 1577
	Crew Cab - Base	**Crew Cab - S**	**Crew Cab - SS**
Length	5306	5311	5311
Width (with mirrors)	2046	2046	2046
Height	1500	1512	1513
Wheel base	3206	3206	3206
Front overhang	941	938	941
Rear overhang	1179	1171	1171
Front track – steel wheels – alloy wheels	1569 -	- 1559	- 1559
Rear track – steel wheels – alloy wheels	1597 -	- 1587	- 1587

GENERAL SPECIFICATIONS cont.

Body lubricants

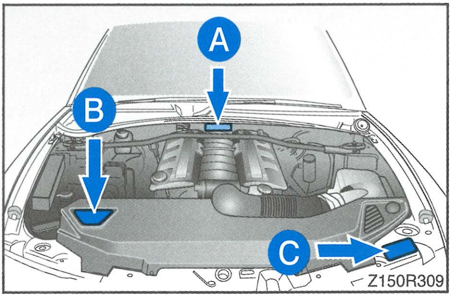
Area	**Lubricant**
Bonnet catch	NLGI No. 1 Lithium Grease (with Zinc Oxide) meeting Holden Specification HN 1225
Door hinges	NLGI No. 1 Lithium Grease (with Zinc Oxide) meeting Holden Specification HN 1225
Check link housing	NLGI No. 2 Polyurea Grease (mineral oil base) 1.2 g applied to housing
Check link arm	NLGI No. 2 Lithium Complex Grease 1.2 g applied to arm
Front door lock cylinder	Powdered Graphite applied through key aperture DO NOT OIL

Air conditioning specifications

	V6	**V8**
Refrigerant type	R-134A	R-134A
Refrigerant charge	800 +/- 25 g	800 +/- 25 g
Compressor oil type	Polyalkylene glycol, RL-897 or Daphnee per SD2-323	Polyalkylene glycol, PAG2 type (GM part no. 12345923 or equivalent)
Compressor oil refill capacity	150 +20/-10 ml	220 +20/-0 ml

WARNING: The air conditioning system should be serviced by qualified personnel only. Improper service methods may cause personal injury.

IDENTIFICATION LABELS



Safety Compliance plate

Shown on the plate are the vehicle Make, Model Series, Date of Manufacture, Vehicle Identification Number (VIN), approved seating capacity, Gross Vehicle Mass (GVM) on utility and Approval Number.

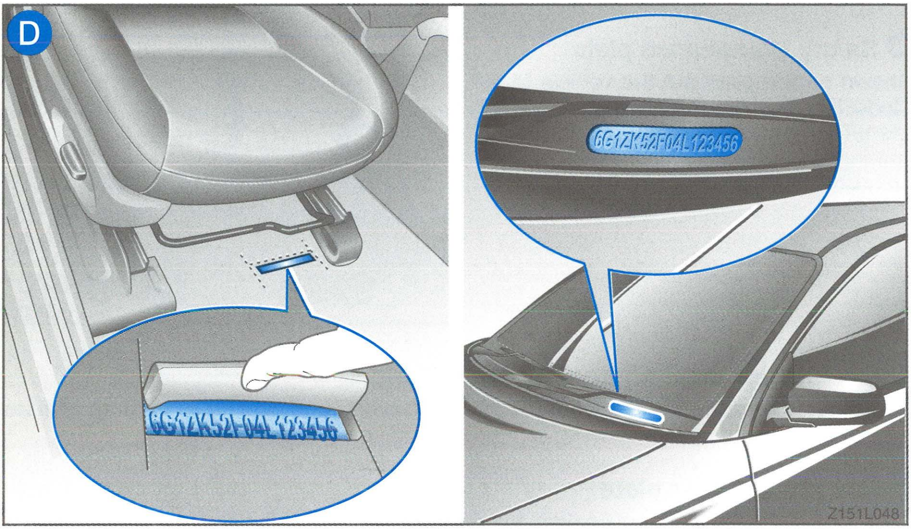
Cooling system / Air conditioning label

This label shows the warnings for the air conditioning and cooling system as well as information on the air conditioning refrigerant and compressor oil.

Body and Option plate

This plate shows model identification, Vehicle Identification Number (VIN), paint and trim colour combination, air conditioning, paint number, engine, transmission, axle ratio options, suspension options (where applicable) and build date. The build date is defined as 'the date of manufacture' by calendar month and year in which the body shell and powertrain sub-assemblies are co-joined and the vehicle is driven or moved from the production line.

IDENTIFICATION LABELS cont.



D ISOVIN plates

Each vehicle has its own, individual International Standards Organisation Vehicle Identification Number (ISOVIN), which is shown both behind the windscreen on the left side and under the right-hand front seat, under a carpet flap.

6	G	1	Z	K	4	2	B	0	5	L	1	2	3	4	5	6

Sequential Production Number

Plant Build Code: L = Elizabeth

Model Year Code: 5 = 2005, 6 = 2006, etc

Security Check Code

Engine Code:
B = Alloytec V6
7 = Alloytec High Output V6
H = 6.0 Gen IV V8

Restraint Code:
1 = active seat belts
2 = active belts with driver and passenger airbags
3 = active belts with driver airbag
4 = active belts with driver, passenger and side airbags

Body Style: 4 = Utility, 3 = Crew cab

Luxury Level: K = Base models, S, SS

Model Series: Z = VZ

World Manufacturer Identifier:
6 = Oceania
G = Australia
1 = Holden

NOTES

CHAPTER 9

Customer Assistance

Page	
9-2	Customer assistance
9-3	For New Zealand Holden owners
9-4	Roadside assistance
9-6	New vehicle warranty
9-8	Parts and accessories warranty
9-9	Warranty questions and answers

✻ The asterisk signifies equipment options not in all vehicles (model variants, engine options, optional equipment and Genuine Holden Parts and Accessories).

CUSTOMER ASSISTANCE

We want you to be happy with your new vehicle, together with the people you deal with while you have the vehicle.

Normally, any problems with the sales, operation, servicing or the validity of original equipment supplied with your vehicle will be handled by your Holden Dealer's Sales and Service Department.

We realise however that, with the best intentions, misunderstandings do occur sometimes.

Therefore, we suggest you discuss any concern with one of the Holden Dealer's management people. If you have not received satisfaction from the Sales Manager or Service Manager – go to the General Manager or to the Dealer Principal.

By now you should have satisfaction. If not, the Holden Customer Assistance office is at your disposal.

The Holden Customer Assistance representatives can be telephoned from anywhere within Australia for only the cost of a local call. The Melbourne area number is:

9646 5466

Outside the Melbourne Metropolitan area, the number is:

1800 033 349

If your concern relates to parts / accessories and you have made contact with the Dealer or Distributor without satisfaction, you may contact Holden Service Parts Operations on (03) 9797 7341.

Naturally, telephoning is the quickest and the best way to contact. However, if you prefer to write the address is:

The Manager
Holden Customer Assistance Centre
GPO Box 1714
Melbourne, 3001.

Your letter should clearly outline your concern or query, and include the following:

- Your name and address.
- Telephone numbers, both private and business.
- Servicing Dealer's name and address.
- Vehicle model.
- Vehicle identification number (I.S.O.V.I.N.), refer to the inside front cover of the service booklet in your vehicle's glovebox.
- Date of purchase.
- Current odometer reading.

Most of this information will be found on the Vehicle Identification Certificate, located inside the front cover of the service booklet in your vehicle's glovebox.

Before you write however, remember that the telephone is the quicker and more efficient means of communication.

FOR NEW ZEALAND HOLDEN OWNERS

The information in this Owner's Handbook applies primarily to Australian Holden vehicles and there may be some differences to the Warranty and Owner Assistance provisions for New Zealand. Applicable details for New Zealand are set out in the Holden Warranty and Owner Assistance Information booklet enclosed in the New Zealand glovebox wallet.

☎ New Zealand Assistance can be reached on:

0800 HOLDEN (0800 465 336)

This number provides access to New Zealand Roadside Assistance as well as New Zealand Customer Assistance.

✉

If you prefer to write the address is:

The Manager
Holden Customer Assistance Centre
GPO Box 1714
Melbourne,
Australia, 3001.

ROADSIDE ASSISTANCE

3 YEAR
24 HOUR ROADSIDE ASSISTANCE

1800 Telephone numbers

1800 telephone numbers are tollfree from landline phones, however standard rates apply when using a mobile or public telephone.

Our commitment to your satisfaction

Holden's Roadside Assistance is part of the unequalled commitment by Holden to provide total motoring satisfaction.

From the moment delivery is made, our aim is to provide the finest possible ownership experience, from design through manufacturing to servicing and now beyond to the open road, Australia wide.

We hope the need never arises, but if it does, we'll be there to help through Holden Roadside Assistance.

How does Holden Roadside Assistance work?

Holden Roadside Assistance is provided by Holden Ltd. and delivered by the collective resources of the Australian Automobile Clubs and Associations including the constituents of Assist Australia (AA). To request a copy of the terms and conditions, contact Customer Assistance Service Line on 1800 033 349.

Which vehicles are covered by the service?

As of 1st November 1993 all new Holden passenger and light commercial vehicles are covered for 36 months from the date of first registration.

Holden Roadside Assistance is extended to private and business vehicles, taxis, rental companies, all government and fleet operators.

What will Holden Roadside Assistance do for me?

Holden Roadside Assistance is designed to get you mobile on any road that is trafficable to normal two wheel drive vehicles. In the event of the unexpected happening, from your keys being locked in your vehicle to mechanical and accident advice, help is readily available by simply calling the toll free number 1800 817 100.

All Holden luxury vehicles receive the added benefits of Holden Roadside **Ultra** Assist which includes accommodation, alternative transport, rental vehicle, assistance in case of accident, theft and medical emergency and Australia wide vehicle recovery.

Can I upgrade to Roadside Ultra assist?

Yes, owners can upgrade to Holden Roadside **Ultra** Assistance for a fee by dialling 1800 645 668. To request a copy of the **Ultra** terms and conditions, contact Customer Assistance Service Line on 1800 033 349.

ROADSIDE ASSISTANCE cont.

When do the benefits begin?

Cover begins from the date of first registration. An interim card entitles you to immediately receive all the benefits of Holden Roadside Assistance.

Where can I get Roadside Assistance?

Holden Roadside Assistance is available to you at home, or at the roadside, anywhere in Australia, should you need it. In remote or sparsely populated areas you may experience delays in obtaining Roadside Assistance due to your location, the availability of the service provider and accessibility.

Is there a membership or joining fee?

No, Holden Roadside Assistance is complimentary with every new Holden passenger vehicle and light commercial vehicle for 36 months from the date of first registration.

What will Holden Roadside Assistance cost me?

Materials, fuel and spare parts must be paid for at the time of service. The service personnel attending will issue a receipt for these expenses. Reimbursement of expenses covered by Holden's warranty can be claimed by contacting your local Holden Dealer.

What happens if I sell my vehicle?

Holden Roadside Assistance stays with the vehicle, so if you sell your vehicle during the 36 month period, it is still eligible for the balance of the Holden Roadside Assistance. The new owner simply registers for the service by using the change of ownership form supplied in the Roadside Assistance booklet.

How do I call for assistance?

Simply call Holden Roadside Assistance toll free on 1800 817 100 from anywhere in Australia. For further information regarding the service and full terms and conditions, refer to the Roadside Assistance Kit in the glovebox or call the toll free Customer Assistance Service Line on 1800 033 349.

NEW VEHICLE WARRANTY CERTIFICATE

New Vehicle Warranty application

This Warranty is given by Holden Ltd., ABN 84 006 893 232, ('Holden'). The Warranty applies to the vehicle identified on the inside front cover of the service booklet in your vehicle's glovebox. It is provided to the original and subsequent owners / operators driving the vehicle within Australia during the Warranty Period.

This Warranty is given in addition to all rights conferred by law on that person.

Australian vehicles

This Warranty is only applicable to vehicles purchased and operated in Australia.

Owners of vehicles purchased in Australia but operated overseas should consult the local Dealer in the country of operation about any Warranty applicable to their vehicle. This Warranty does not apply for Holden vehicles exported overseas. Similarly, this Warranty is not provided for vehicles purchased overseas and imported into Australia.

Repairs covered

Subject to the exclusions shown on the following page, this Warranty covers the correction, during the Warranty Period, of any vehicle defect related to materials or workmanship and advised to a Holden Dealer or Authorised Service Outlet, by repair or at Holden's option by replacement.

100,000kms
3
years

Warranty Period

The coverage commences from the date of delivery (or in the case of a demonstrator vehicle the date when the vehicle was first placed into service by the Dealer). The coverage expires at the end of the period of 3 years after the commencement date or after the vehicle has travelled 100 000 kilometres, whichever occurs first.

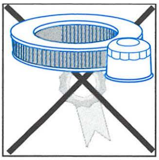
No charge

Warranty work undertaken (including parts and labour) will be carried out at no cost to the vehicle owner. However, this work should not be confused with servicing specified in the Maintenance schedule in the service booklet for which a charge is payable.

NEW VEHICLE WARRANTY CERTIFICATE cont.

Warranty exclusions

- **Damage**
  Your Warranty does not extend to the following damage:
  Damage caused by an accident, fire, theft or moving objects striking the vehicle.
  Damage caused by industrial fallout, chemicals or sealants.
  Damage caused by atmospheric fallout or flood, hail, salt, etc.



- **Maintenance items**

  Services such as brake adjustment, replacement of filters, wiper rubbers etc., which are required as part of normal vehicle maintenance (refer to the service booklet in your vehicle's glovebox).

Manufacturer

- **Tyres**

  The tyres (and tubes where applicable) fitted to your vehicle are not covered by this Warranty. However, they may be covered by the tyre manufacturer.

- **Batteries**
  Batteries are warranted for 12 months.

- **Misuse**
  This Warranty does not cover damage caused by:
  (a) misuse or abuse of the vehicle such as by racing, rallying, overloading, etc., or neglect
  (b) operation of the vehicle after the defect is known
  (c) failure to carry out proper maintenance services (refer to the service booklet in your vehicle's glovebox)
  (d) use of incorrect types and grades of fuel, oil or lubricants
  (e) alteration of the vehicle by anyone not authorised by Holden
  (f) fitting of parts or accessories not recommended by Holden
  (g) any work carried out on the vehicle by anyone except an authorised Holden Dealer or authorised Service Outlet.

PARTS AND ACCESSORIES WARRANTY

Holden warrants Holden approved Parts and Accessories ('Parts' and 'Accessories') for the periods and on the conditions set out below. The Warranty covers the correction, during the relevant Warranty Period, of defects in any such Parts and Accessories, by repair or at Holden's option by replacement.

- **Accessories installed to the new vehicle**

  Holden approved Accessories installed by a Holden Dealer or authorised Service Outlet to the new vehicle at the time of purchase are covered together with the New Vehicle warranty for the period of 3 years or 100 000 km, whichever occurs first.

- **Parts and Accessories installed after new vehicle delivery by a Holden Dealer or authorised Service Outlet**

  Parts and Accessories installed after new vehicle delivery by a Holden Dealer or authorised Service Outlet are covered for 2 years or 50 000 km (whichever occurs first). If the vehicle is still within the New Vehicle Warranty the Parts and Accessories are covered by the longer of:

  2 years / 50 000 km (whichever occurs first)

  or

  the end of the New Vehicle Warranty.

  As an example, an Accessory installed in a 7 month old vehicle would be covered until the end of the New Vehicle Warranty; an Accessory installed in a 2½ year old vehicle would be covered until the end of 4½ years or a further 50 000 km from when the Accessory was installed.

- **Purchased at retail or trade**

  Parts and Accessories purchased at trade or retail and installed by other than a Holden Dealer or authorised Service Outlet are warranted for 1 year from the date of purchase. Please keep a receipt to support warranty claims.

  The Warranty does not cover the labour costs of removal / reinstallation of Parts and Accessories when installed or rectified by other than a Holden Dealer or authorised Service Outlet.

- **Parts and accessories warranty exclusions**

  The tyres (and tubes where applicable) are not covered by this warranty. However, they may be covered by the tyre manufacturer.
  Batteries are warranted for 12 months from date of purchase.
  Parts which are required as part of normal vehicle maintenance are warranted against manufacturing defect at the time of installation. Consult your Holden Dealer to confirm the period of this warranty.

WARRANTY QUESTIONS AND ANSWERS

This section is designed to assist you in understanding the Holden Warranty provided with your new vehicle.

The following are some of the most frequently asked questions for which detailed answers are provided.

Q 1. How do I go about obtaining Holden Warranty service?

It is the responsibility of the Selling Dealer to provide Holden Warranty service, therefore, you should take your vehicle to the Selling Dealer whenever Holden Warranty service is needed. However, if this is not possible, you may go to any other Authorised Holden Dealer. The details recorded inside the front cover of the service booklet will be required by the Dealer.

Q 2. What should I do if my vehicle becomes unsafe or inoperative as a result of a defect which is covered by the Holden New Vehicle Warranty?

You should contact the nearest Authorised Holden Dealer or Holden Customer Assistance Service (refer previously in this chapter) as soon as possible, and arrange for that Dealer to carry out the required Holden Warranty Service.

Q 3. What should I do if, in an emergency, Holden Warranty service is required and an Authorised Holden Dealer is not available to provide such service at the time?

If, in an emergency, a repair, replacement or adjustment (covered by the Holden New Vehicle Warranty) is required to enable your vehicle to be operated safely and it is not practical for you to go to an Authorised Holden Dealer, the service (to the extent that it is necessary to enable your vehicle to be operated safely) may be performed by any other qualified mechanic or repairer. A claim for the reasonable cost may be made through the authorised Holden Dealer who would normally provide you with Holden Warranty service. You must also take your vehicle to the Authorised Holden Dealer for inspection of the service and / or completion of any required Holden Warranty service, as soon as possible.

Note: During normal business hours you should seek authorisation from your nearest Authorised Holden Dealer or Holden Customer Assistance Service, prior to repairs being commenced.

Q 4. Are damage or injury, loss of time, inconvenience, commercial or other direct or indirect loss covered by the Holden Warranty?

No, these items are not covered. Holden warranty only covers the repair, replacement or adjustment of those parts of your vehicle which are found to be defective in materials or workmanship. No other types of claim for compensation of any kind, even if the same resulted from a consequence of a defect in materials or workmanship in your vehicle, will be recognised under the Holden New Vehicle Warranty.

You may have rights under the law to claim compensation outside of the Holden New Vehicle Warranty, but any claim based on those rights should be separately pursued.

WARRANTY QUESTIONS AND ANSWERS cont.

Q 5. Will I have to pay for maintenance costs during the Warranty Period?

Maintenance costs are not covered by the Holden New Vehicle Warranty. The Maintenance Schedules in the service booklet (in your vehicle's glovebox) specify the *minimum* maintenance required for your vehicle operating under normal conditions.

The Maintenance items (except where they are required as a result of defects in materials or workmanship) for which you will have to pay include:

- Engine tune-up, including spark plugs replacement.
- Replacement of all filters (including LPG lock off filter ✻), engine and other belts, hoses (including LPG hoses ✻) wiper blades and clutch linings.
- Cleaning or flushing of fuel, coolant, brake, engine, transmission, differential, power steering etc., after 3000 km.
- Carbon and sludge removal.
- Maintenance servicing of emission control system devices.
- Adding to (or replacing) lubricants.
- Adding to (or replacing) air conditioning refrigerant, after 3000 km.
- Any necessary adjustments to drive belts, transmissions, clutch, park brake etc.
- Wheel balancing – after 3000 km.
- Wheel alignment.
- De-dusting or de-glazing of brake linings or pads – after 3000 km.
- Brake lining wear or damaged brake components due to lining wear.
- Clutch lining wear or damaged clutch components due to lining wear.
- Brake disc pad or disc wear.
- Battery recharging.
- Paint, bright metal finish and trim, due to normal deterioration.
- Body panel adjustment – after 3000 km.
- Door, or bonnet lock adjustments.
- Glass or channel adjustments – after 3000 km.
- Body rattle, squeaks and general tightening of bolts, fasteners and fittings – after 3000 km.
- Chipped glass or breakage.
- Torn or damaged floor mats or carpets.
- Normal wear and tear to trim components.

Q 6. Are my tyres covered by the Holden New Vehicle Warranty?

No. The tyres fitted to your vehicle are covered by a separate warranty provided by the tyre manufacturer. Any Authorised Holden Dealer will assist you by discussing any queries which you might have with respect to the tyre manufacturer's warranty with the tyre manufacturer's representative.

WARRANTY QUESTIONS AND ANSWERS cont.

Q 7. Will I have to pay for any costs or expenses in connection with the provision of Holden Warranty service?

All parts and labour used in carrying out Holden Warranty service at the premises of the servicing Holden Dealer are free of charge. Whenever Holden Warranty service is to be carried out by the servicing Holden Dealer it is your responsibility to deliver your vehicle to the servicing Holden Dealer's premises.

If, as a result of a defect which is covered by the Holden New Vehicle Warranty, your vehicle cannot be driven safely and you arrange for the nearest Authorised Holden Dealer to carry out the required Holden Warranty service, Holden will accept reasonable towing costs to move your vehicle to the nearest Holden Dealer's premises. Before employing a towing company, contact the nearest Holden Dealer and / or Holden Customer Assistance Service to obtain guidance.

Q 8. Would my vehicle's engine benefit from fuel additives, oil additives or coolant additives not marketed by Holden?

The use of break-in oil, tune-up compounds, friction-reducing compounds and other supplemental additives is not recommended; their use will not only increase operating costs, but may also be detrimental to the operation of your vehicle and may affect the validity of your New Vehicle Warranty.

Only the fluids and lubricants referred to in this handbook should be used.

UNAUTHORISED STATEMENTS IN RELATION TO HOLDEN PRODUCTS

No Holden Dealer or other person is authorised or permitted to give or make any statement, assertion or undertaking in relation to the quality, performance, characteristics, descriptions or fitness for any purpose of any Holden product or in connection with the supply of any Holden product, which is at variance with any written statement, assertion or undertaking on any of these subjects given or made by Holden in its published sales literature, and Holden does not accept any responsibility for such unauthorised action.

CHAPTER 10

Tow and load

Page

10-2 Loading the vehicle
10-6 Towing
10-7 Towing equipment
10-8 Attaching a trailer
10-10 Towing and loading equipment
10-11 Towing precautions

✻ The asterisk signifies equipment options not in all vehicles (model variants, engine options, optional equipment and Genuine Holden Parts and Accessories).

LOADING THE VEHICLE

Safe operation of your Holden Light Commercial vehicle demands careful attention to two vital aspects of loading: balance and safe operating limits.

WARNING:

Overloading is a safety hazard. A vehicle that is loaded to excess, or carrying a load that is unbalanced, is going to experience reduced life through excess loads being placed on the frame, transmission, axles, hubs and tyres.

Holden crew cab recommended body length

WARNING:

Excessive overhang can affect vehicle balance and road holding.

When fitting a body or tray to a crew cab model, refer to your Holden Dealer to ensure the proposed rear tray fitment is compliant with vehicle and transport regulations in your state.

It is important that the crew cab is correctly specified for its intended application. Inappropriate modifications to the standard vehicle specification may affect vehicle performance and safety through overloading of the vehicle. Such modifications may also affect the New Vehicle Warranty to the extent that Holden considers that it affects the specifications and quality of the vehicle. Please refer to your Holden Dealer.

Gross Vehicle Mass (GVM)

The GVM is the accepted safe, maximum all-up weight rating of a fully loaded vehicle and is based on design factors and the strength of the frame, spring fitment, tyre ratings and axle capacities. Refer also to the safety compliance plate on the vehicle for GVM Refer to Chapter 8 for compliance plate location.

Gross Vehicle Mass (GVM)

Engine	**V6**		**V8**	
Transmission	**Automatic**	**Manual**	**Automatic**	**Manual**
Utility	2365 kg	2365 kg	–	–
Utility – 'S'	2275 kg	2275 kg	–	–
Utility – 'SS'	–	–	2275 kg	2275 kg
Utility – 'S/SS' Thunder	2135 kg	2135 kg	2135 kg	2135 kg
Crew cab	2826 kg	2826 kg	–	–
Crew cab – 'S'	2826 kg	2826 kg	–	–
Crew cab – 'SS'	–	–	2535 kg	2535 kg
Crew cab – 'SS' Thunder	–	–	2560 kg	2560 kg

Kerb Mass

Kerb Mass (or kerb weight) is the mass of the vehicle in running order unoccupied and unladen with all fluid reservoirs filled to nominal capacity including fuel, and with all standard equipment.

LOADING THE VEHICLE cont.

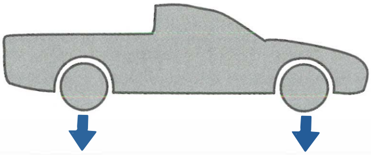
Kerb Mass Note: The vehicle weights listed are estimates based on preproduction vehicles, and although correct at the time of printing, are subject to change. When the actual weight of a particular vehicle is needed, it is recommended that the vehicle be weighed on a suitable weighbridge.

Utility Kerb Mass (kg)				
Engine	**V6**		**V8**	
Transmission	**Automatic**	**Manual**	**Automatic**	**Manual**
Utility	1531	1532	–	–
Utility – 'S'	1560 **	1561**	–	–
Utility – 'SS'	–	–	1635 **	1625 **
Utility – 'S/SS' Thunder	1587	1589	1658	1648
Crew cab Kerb Mass (kg) without Tub				
Engine	**V6**		**V8**	
Transmission	**Automatic**	**Manual**	**Automatic**	**Manual**
Crew cab	1611	1623	–	–
Crew cab – 'S'	1641	1653	–	–
Crew cab – 'SS'	–	–	1703	1705
Crew cab Kerb Mass (kg) with Tub				
Engine	**V6**		**V8**	
Transmission	**Automatic**	**Manual**	**Automatic**	**Manual**
Crew cab	1743	1755	–	–
Crew cab – 'S'	1773**	1785**	–	–
Crew cab – 'SS'	–	–	1835**	1837**
Crew cab – 'SS' Thunder	–	–	1863	1865
** With Hard Tonneau				

LOADING THE VEHICLE cont.

Maximum front and rear axle loads

Make sure that the combined front and rear axle loads do not exceed the GVM. Do not exceed the maximum axle loads shown in the diagram, including the weight of any fitted accessories. If unsure, the vehicle should be weighed at a weighbridge. This ensures that the vehicle's axles have sufficient strength to carry the total weight of body and mechanicals, plus cargo and passengers, and still retain a considerable capacity safety margin to cope with weight transfer as the vehicle brakes, accelerates, corners and goes over bumps.

		
Vehicle	**Rear axle load (kg)**	**Front axle load (kg)**
Utility - V6 manual	1350	1015
Utility - V6 automatic	1350	1015
Utility - 'S' and 'SS'	1260	1015
Utility – 'S/SS' Thunder	1120	1015
Crew cab - V8 'SS' models	1460	1180
Crew cab - all other models	1800	1180
Crew cab – 'SS' Thunder	1460	1180

Carrying capacity and payload

It is important to understand the difference between carrying capacity and payload.

Carrying capacity is the maximum capacity of the vehicle for the carriage of all nonstandard items including cargo carrying devices (for example, tray or body, if applicable), the cargo itself, occupants, optional equipment and accessories. Light commercial vehicles, depending on their model and specification, have different carrying capacities. Carrying capacity can be calculated by subtracting the figure for the vehicle's kerb mass from the vehicle's GVM, refer to the following table.

Payload is the mass of cargo that the finished vehicle is permitted to carry having regard to the aggregate mass of the vehicle's kerb mass, optional equipment, accessories, cargo carrying device (if applicable) and occupants. It is important to calculate the intended payload accurately and the following information will assist you to do so.

LOADING THE VEHICLE cont.

Calculating Payload

To calculate the maximum payload, subtract the following from the GVM: the kerb mass, the weight of the occupants, the weight of any fitted options (for example, tow bar and tongue, roo bar) and the weight of the fitted tray (if applicable). Refer to table following.

It is important to note that the combined weight of all additional items needs to be added to the published kerb mass before being deducted from the vehicle's GVM to arrive at the final maximum payload.

Payload Calculations	
Gross Vehicle Mass (GVM):	kg
less Kerb Mass:	kg
= Carrying capacity:	kg
Less weights for the following items (if applicable)	
Occupants:	kg
Full tank of fuel:	kg
Air conditioning:	kg
Tow bar and tongue:	kg
Roo bar:	kg
Cargo liner:	kg
Fitted body / tray:	kg
Other:	kg
= Total of Extras:	kg
Carrying capacity:	kg
less Total of Extras:	kg
= Payload*:	kg

*This figure is the maximum permissible load the vehicle can carry without exceeding its GVM rating. Ensure that the load is balanced and within the front and rear axle capacities.

Notes on loading the vehicle

- Heavy objects can slip when the vehicle is braked heavily or driven around a corner, therefore the handling of the vehicle may change.
- Do not place objects in front of the rear window or on the dashboard above the instrument panel. They are reflected in the glass, obstruct the driver's view and may be thrown through the vehicle in the event of heavy braking.
- Driving with a roof load increases the sensitivity of the vehicle to cross winds and affects vehicle handling owing to the higher centre of gravity of the vehicle.
- Do not place objects in the area that the airbags inflate. The object could cause injury if the airbags are triggered.

Carrying gas cylinders in vehicles

WARNING:

Gas cylinders can leak, creating a risk of fire or explosion. As a precaution, ensure adequate ventilation when carrying gas cylinders. They must be restrained from rolling around, and where possible, placed in the load area of the vehicle. It is recommended that if gas cylinders are frequently transported that a purpose-built carrying compartment be used. Transportation of gas cylinders is regulated by legislation in some states.

TOWING

Trailers

The word ‘trailer’ is used throughout this section and is intended to include all types of towed vehicles, such as a caravan, boat trailer or any other special purpose trailer.

Towing

The vehicle is designed primarily as a light commercial vehicle, so handling, durability and economy may be affected by towing a trailer.

Refer to the chart on the facing page to see which equipment is specified as essential and which equipment is recommended for the weight you are towing. Your Holden Dealer will help supply and install towing equipment to suit your requirements.

Overloading

Never exceed the loads given for the towing equipment fitted to the vehicle. For your safety and the vehicle's durability, all essential equipment must be fitted. Otherwise you may void the New Vehicle Warranty, to the extent that Holden considers the overloading or missing equipment to have affected the specifications or quality of the vehicle.

Maximum towing capacities (kg) – braked trailer

ENGINE	**V6**		**V8**	
TRANSMISSION	**Automatic**	**Manual**	**Automatic**	**Manual**
Utility – all models	1600	1600 (1)	1600	1600
Crew cab – all models	2100	1600 (2)	2500	1600
Utility – 'S/SS' Thunder	1600	1600 (1)	1600	1600
Crew cab – 'SS' Thunder	–	–	2500	1600
Note: The recommended maximum unbraked towing capacity for all vehicles is 500 kg				

(1) For a V6 Manual Transmission equipped Utility, the gross combined mass of the vehicle and trailer may not exceed 3500kg.

(2) For a V6 Manual Transmission equipped Crew Cab, the gross combined mass of the vehicle and trailer may not exceed 3900kg.

WARNING:

Holden towing equipment is recommended where it is available. Where it is not available, no recommendation is made as to the make of equipment which should be used. Holden will not accept liability for defects occurring in towing equipment not marketed by Holden or for defects in the vehicle arising from the use of such equipment or for loss or injury caused by use of such equipment. The use of such equipment may void your New Vehicle Warranty, to the extent that Holden considers the non-recommended equipment affects the specifications or quality of your Holden vehicle. It is inadvisable to mix and match different brands of towing equipment, as equipment is usually designed as an integrated package.

TOWING EQUIPMENT

TOW LOAD	ESSENTIAL EQUIPMENT	RECOMMENDED EQUIPMENT
Up to 1600 kg	Holden 1600 kg rated tow bar	A load distribution hitch is recommended if towing a single axle trailer that weighs more than 750 kg when loaded
	Holden trailer wiring harness	
	Electric or hydraulic brakes on the trailer if the trailer weighs more than 500 kg when loaded	
	Heat shield for the centre bearing (Ute only)	
Between 1600 kg and 2100 kg	Holden 2100 kg rated tow bar	A load distribution hitch
	Holden trailer wiring harness	
	Electric or hydraulic brakes on the trailer	
	Automatic transmission	
***Between 2100 kg and 2500 kg**	Holden 2500 kg rated tow bar	A load distribution hitch
	Holden trailer wiring harness	
	Electric or hydraulic brakes on the trailer	
	Automatic transmission	

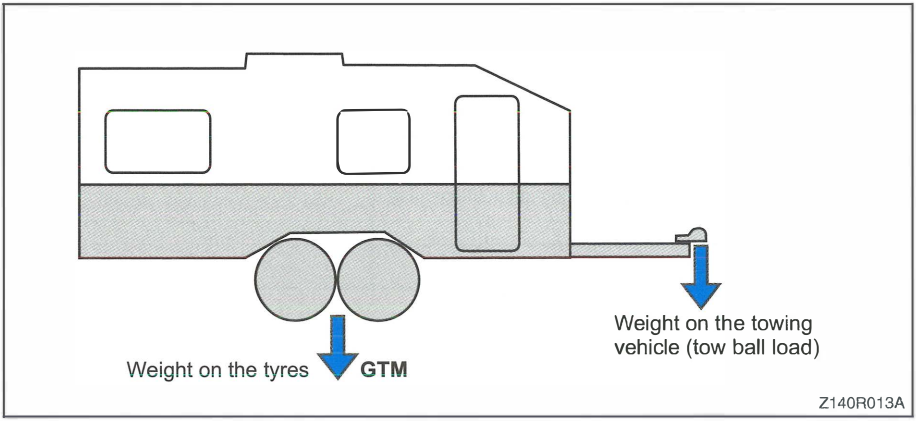
ATTACHING A TRAILER

Common trailer mass related terms and definitions

Tow bar ball load: If a trailer is hitched to the vehicle it places a weight on the tow bar. This weight is called the 'tow bar ball load' or ‘tow ball weight’.

Gross Trailer Mass (GTM): The total permissible mass that can be supported by the trailer. This includes the weight of the trailer and payload, but excludes the tow ball load when coupled to a vehicle.

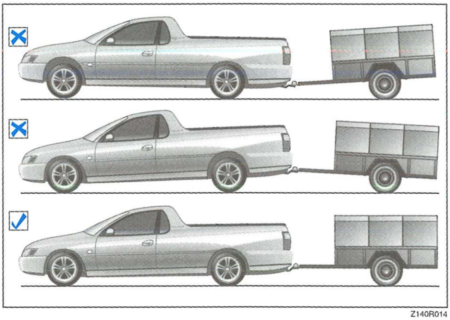
Tare Mass: The unladen weight of the trailer.



Recommended procedure for attaching a trailer

It is recommended that the tow ball weight should be 10% of the packed trailer weight. This can be adjusted by correctly packing the contents of the trailer. For example, by moving items forwards or backwards within the trailer so as to change the balance of the trailer.

If the tow ball weight is too light or too heavy, the steering and handling of the vehicle will be affected.



Calculating Gross Combined Mass (GCM)#

GCM is the maximum allowed mass of the vehicle and trailer together.

GCM = GVM + GTM.

# **The V6 Manual Utility is restricted to a GCM of 3500 kg.**

# **The V6 Manual Crew Cab is restricted to a GCM of 3900 kg.**

ATTACHING A TRAILER cont.

All towing (before you begin)

Axle loads must not be exceeded when the tow ball weight is included. Refer to previously in this chapter for maximum axle loads. If maximum axle loads are exceeded, sufficient weight should be removed from the rear of the vehicle and transferred onto the trailer.

Ensure the weight of the packed trailer is not greater than the towing capacity of the Holden approved tow bar package.

1. Connect the trailer to the vehicle.

When towing over 1200 kg

2. Adjust load distribution hitch so that the vehicle and trailer are level with the ground.

Example:

- Utility loaded with two occupants (with an average weight of 68 kg each) and 694 kg of luggage in the rear load area. The total payload is 830 kg, which is the maximum load allowable for a V6 automatic utility.
- Trailer then hitched up, weighing 1000 kg when loaded. The trailer has been correctly balanced so as to provide 10% of its weight on the tow bar. This translates to:

830 kg	(existing luggage)
+ 100 kg	(10% of trailer weight)
= 930 kg	loaded on the utility

  The utility is now overloaded at the rear.
- Therefore, move 120 kg of luggage into the trailer. This now translates to:

710 kg	(luggage)
+ 112 kg	(10% of the trailer, which now weighs 1120 kg)
= 822 kg	loaded on the utility

The utility and trailer are now correctly loaded, as this weight is under 830 kg.

TOWING AND LOADING EQUIPMENT

Load distribution hitch

- A load distribution hitch is recommended when towing more than 750 kg.
- A load distribution hitch is designed to raise the rear of the vehicle and transfer a portion of the load to the front wheels when the loaded trailer is hitched.
- The loaded vehicle and trailer should be level, that is, parallel to the ground.

TOWING PRECAUTIONS

- When heavily loading the vehicle or when towing, the tyres should be inflated to the maximum recommended pressure. Refer to Chapter 7 for tyre placard location and information about tyre pressures. Also refer to Chapter 4, under 'Loading the vehicle' for driving information with increased loads.
- Ensure that a load distribution hitch is correctly distributing the ball load.
- Tighten the tow ball retaining nut to 175 Nm (Newton metres) and check the torque frequently.
- Vehicles handle differently when towing. It is a good idea to make a couple of short distance trips with the trailer before setting off on the longer journey.
- Have the vehicle correctly maintained and serviced.
- Have the trailer maintained and serviced, with particular attention given to condition of brakes, tyres, suspension, wheel bearings, towing coupling and lighting.
- Use an extended-arm mirror on both sides of the vehicle.
- Headlights may need re-aiming after the loaded trailer has been hitched, particularly if a load distribution hitch is not used.
- Use a lower gear, rather than the brakes, when descending steep hills.
- If the trailer moves off the road behind you, allow the left wheels of the vehicle to move off as well. When it is safe to do so, carefully steer back on to the road. A sudden attempt to steer back could make the vehicle swerve dangerously.
- Automatic transmission: To stop the transmission constantly changing in and out of top gear, it is recommended that the 'Power' mode be selected when towing. Refer to Chapter 4 for selection of Power or Normal modes.
- Do not use axle-mounted hitches. They can cause damage to the axle housing, wheel bearings, wheels and tyres.
- Ensure that the tow bar does not obscure the rear licence plate. If necessary, remove the tow bar tongue when it is not required for towing.
- TRAILER BRAKES:
  - Trailer brakes are recommended on trailers weighing 500 kg and over when loaded.
  - The brakes on the trailer must be designed to cope with the braking requirements of that trailer under all towing conditions, without adversely affecting the brakes on the vehicle.
  - Different types of brake signalling devices are available for trailers, such as electric, overrun or hydraulic signalling. If a hydraulic signalling type is used, it must not displace more than 0.21 cc of fluid during braking.
  - It must not be fitted to the front brake system, only to the rear brake system. While no recommendation is made by Holden with regard to the manufacturer of the brake system, the specifications issued by brake manufacturer PBR indicate that their unit meets Holden requirements.

TOWING PRECAUTIONS cont.

Running-in when towing

It is recommended that the new vehicle be driven for at least 1500 km before towing. If the vehicle must tow before this do not exceed 80 km/h. The same applies if the vehicle is fitted with a new or reconditioned engine, transmission or rear axle.

Vehicle maintenance

More frequent vehicle maintenance is required when using the vehicle to tow. Refer to the service booklet in the vehicle's glovebox.

Vehicle weight

Some states specify that the load being towed must not exceed the weight of the vehicle.

CHAPTER 11

Cleaning

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INTERIOR CLEANING

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11-2 Velour door trim
11-2 Vinyl
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11-8 Cleaning products

✻ The asterisk signifies equipment options not in all vehicles (model variants, engine options, optional equipment and Genuine Holden Parts and Accessories).

INTERIOR CLEANING

WARNING:
Many cleaners are toxic, flammable or may damage the interior. When cleaning the interior, avoid volatile cleaners such as acetone, lacquer thinners, enamel reducers, nail polish removers, or cleaners such as laundry soaps, bleaches or reducing agents. Never use carbon tetrachloride, petrol or naphtha for any cleaning purpose. Ensure that the vehicle is well ventilated while using any cleaners and always follow the cleaning product manufacturer's recommendations. Water based cleaners, rather than solvent based cleaners, are recommended.

Steam cleaning of seats is not recommended.

Upholstery

Dust and dirt accumulate on upholstery should be removed every few weeks, more often with constant driving. This can be done readily with a vacuum cleaner. Before attempting to remove spots and stains, it is necessary to determine:

- The type of fabric.
- The nature and age of the stain.
- The effect of the stain removal agent on the upholstery.

Remove stains as soon as possible. If a stain remains for any length of time it may oxidise or set, making removal very difficult, if not impossible.

Velour door trim

Marks on the velour fabric, which extends to the bottom of the door, can be cleaned off using mild, soapy water on a clean cloth, rubbed in the direction of the pile. When dry, use a soft brush to smooth the pile.

Vinyl

Vinyl fabrics are used for seating, headlinings and auxiliary trimming. Wipe over the surface with a dry cloth during the regular cleaning of the vehicle.

Should dirt accumulate and become embedded in the material pattern:

1. Use lukewarm water and soap, or a good quality velour fabric and vinyl cleaner, to work up thick suds on a piece of cheesecloth and apply to the surface. A soft bristle brush can be used to remove embedded dirt and stubborn stains.
2. Repeat using only a damp cloth and no soap.
3. Wipe dry with a soft cloth. The above cleaning instructions also apply to the rubber floor mats.

Cloth

To clean seats upholstered with cloth, observe the following instructions:

- Remove loose dirt and dust with a vacuum cleaner or soft brush.
- DO NOT use a whisk broom or a coarse hair brush.
- For normal soiling, sponge lightly with warm water containing a mild detergent. Rub the fabric lightly and, if necessary, sponge again to remove any stubborn stains. Soak up excess fluid with a dry cloth. A good quality velour fabric and vinyl cleaner may be used, but should be used sparingly.

INTERIOR CLEANING cont.

Carpet

Thoroughly brush or vacuum the carpet. In many instances the carpet may require no further cleaning. If the carpet is extremely soiled, thoroughly vacuum it to remove loose dirt then, using a good quality velour fabric and vinyl cleaner, clean a small area at a time. After each area is cleaned, remove as much of the cleaner as possible with a vacuum cleaner.

Secured carpet mats ✻ Retainers are provided to hold carpet mats in place. Use a screwdriver or similar (not the vehicle key) to undo the retainers when required. To replace, push the retainer on the back of the mat into the hole in the carpet and turn clockwise to secure.

Leather ✻

To remove surface soil and dirt from leather, clean regularly using a leather revitaliser. Apply using a lint free cloth and rub onto leather, do not saturate the leather with the cleaner and do not pour it directly onto the leather. Allow the leather to dry naturally. A mild detergent may be used as an alternative to a leather revitaliser.

For deeply embedded soil and dirt, use a leather cleaner. This should be applied using the same process as leather revitaliser. After using a leather cleaner / revitaliser apply a leather protector. A leather protector is designed to repel dirt and provides water resistance.

Note:

- Clean and protect leather at least twice a year.
- Do not use synthetic cloths or brushes for cleaning the leather as this may damage the leather.
- Solvents may damage and / or discolour the leather and should not be used.
- The leather may shrink and harden if exposed to direct sunlight for extended periods. If possible park in the shade or cover the leather.
- Do not leave items on the leather that may melt and stick to leather, for example, plastic bags.

Seat belts

Clean seat belts only with a mild, non-abrasive soap and lukewarm water. After washing, be sure to thoroughly sponge the washing solution out of the belts.

WARNING:

Do not bleach or dye seat belts as this may severely weaken them.

Interior glass

Clean interior glass of the vehicle using a good quality glass cleaner, such as Holden Glass Cleaner, and a clean soft cloth. Take care when cleaning inside the rear window so as not to damage the rear window demister or radio antenna.

Never use abrasive cleaners on any vehicle glass, as they can cause scratches.

EXTERIOR CLEANING

Caring for paint

To help preserve that shiny new vehicle finish, pay special attention to correctly treating those conditions that can damage the paint.

- **Road bloom**: If, over a long period of time, oils, dirt, exhaust and other pollutants are allowed to build up, they may combine to affect the paint finish.
- **Etching**: Tree sap, bird droppings, salt water and other natural deposits can, if allowed to stay on the paint, leave an etching or scarring.
- **Pitting**: Tar spots and some industrial fallout can react chemically and may cause pitting to the surface of the paint.

Paint inspection

Inspect the vehicle regularly for scratch marks, cracks or damaged areas, all of which could develop rust. Any deep scratches, cracks or breakdown in the finish should be repaired without delay. Take care to ensure that any rusting is counteracted immediately, otherwise rust 'creep' will extend beyond the damaged area, particularly in tropical or coastal areas, where the moist, or salt-laden air accelerates rusting. The paint finish of the vehicle gives a very high degree of protection against the weather, but wear and deterioration occur when the vehicle is exposed to elements for prolonged periods. The vehicle therefore should be garaged whenever possible.

To prevent damage of the paint surface, remove foreign matter as soon as possible.

Note: Due to the acidity, remove foreign matter such as bird droppings within 24 hours.

Washing the vehicle

The easiest way to keep the paint looking as new is to keep it clean. A wash once a week will keep the vehicle in good condition. However, it must be washed correctly.

Note:

- Never use an automatic wash that requires anything touching the paint (other than water).
- Wash the vehicle once a week to remove build up of any grime on the paint.
- Never wash the vehicle in direct sunlight; find a shady spot to wash the vehicle.

1. Hose the vehicle down from top to bottom with plenty of cold water (in accordance with current water restrictions, if any). This removes any grit or other loose particles and substances. Do not use a sponge or cloth at this point.
2. Fill a bucket with lukewarm water and add no more than two capfuls of gentle detergent, such as Holden Hi Suds Car Wash. Do not use hot water, strong soap or chemical detergents.
3. To remove bird droppings, soak with a wet sponge for several minutes before washing off. If still persistent, use a solution of 1 litre of water and 110 grams of dissolved baking soda (Bicarbonate of Soda). Rinse the area with clean water.
4. Starting with the roof, use a clean sponge to clean a small section at a time. Do not allow liquid to dry before rinsing off that section with clean water. When all sections are completed, rinse the whole vehicle again with clean water.
5. Dry the vehicle thoroughly with a good quality chamois.

EXTERIOR CLEANING cont.

WARNING:

Take care when moving the vehicle after washing, in case water has affected the brakes. Applying the brakes lightly will indicate whether they have been affected. To dry them quickly, lightly apply the brakes while maintaining a slow forward speed with a clear area ahead, until brake performance returns to normal.

Removing stains (grease, oil and tar spots)

Washing the vehicle regularly means that most of the harmful substances deposited on the paint are removed before they can cause permanent damage. However, some substances are not easy to remove. If you notice stains on the paint, make sure that you remove them at the earliest possible opportunity.

Grease and oil, and even tar if it's fresh, can be removed from the paint with a little kerosene or turpentine. As a precaution against staining, wash and polish the area as soon as possible after the stain has been removed. A rubbing or cutting compound can be used after a normal wash. Do not do this on a regular basis as it removes paint.

WARNING:

- Some chemical cleaners, used for removing road oils and tars from painted surfaces, have been found to be detrimental to automotive paint.
- If petrol is spilt on the paint when refilling, flush off immediately with clean water as petrol has a tendency to stain or soften new paint finish during the weathering out period, particularly when the vehicle is exposed to high temperatures.
- Petrol MUST NOT be used to clean any painted or plastic surfaces.

Air intakes

The intake area between the bonnet and windscreen can collect leaves which impairs air flow into the vehicle. Also, the air intake area below the front bumper may collect leaves and road grime, which impairs engine cooling. Refer to 'Miscellaneous checks' in Chapter 7. Clear this area of debris whenever the vehicle is washed.

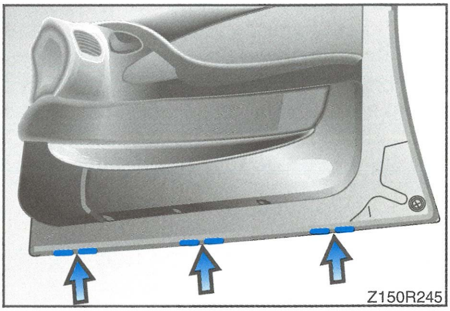
Under vehicle washing

The effects of substances such as salt from road surfaces can cause rust under the vehicle. Hose the underbody with clean water whenever the vehicle is washed. In geographical areas having a heavy concentration of corrosive materials (such as by the sea), it is recommended that the complete underbody be inspected and washed at least once each year, preferably after winter exposure. Pay particular attention to cleaning out the underbody where dirt and other foreign materials may have collected.

Door drain holes

It is important that the drain holes at the bottom of the door panels are checked to make sure that they are free of dirt and other foreign materials which could trap water inside the panels. Clean clogged drain holes with a small screwdriver.

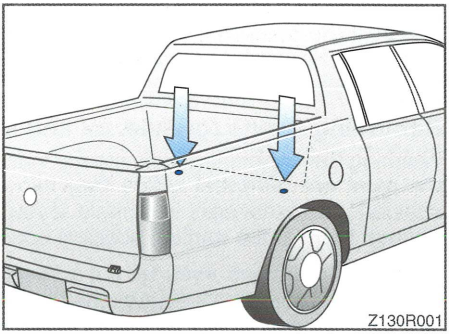
Note: The drain holes in the doors are angled towards the rear of the vehicle.



EXTERIOR CLEANING cont.

Tonneau drain holes – utility and crew cab

Two drain holes are located on the tonneau floor, behind the cabin. Regular cleaning with a hose or similar will ensure that the holes remain clear, so that water can drain away from the loading area.



Polishing

Under normal circumstances the paint does not need polishing to retain its shine. A weekly wash is sufficient. However, the use of a good quality Polymer Glaze, such as Holden Quick and Easy Speed Finish, approximately every 3 months will reduce the effects of road bloom by removing natural contaminants which can build up on the paint.

WARNING:

Do not attempt to apply a polish without first washing the vehicle to remove loose grit, surface dirt, dust or grease.

Tyres

Sponging with cold water is all that is necessary for normal cleaning. Oil and grease should be removed with soap and water or detergent. For tar or other substances, use a mild abrasive, such as mechanic's hand soap or kitchen cleaning powder, if necessary. Thoroughly wash the tyres with clean water to finish. Do not use petrol to clean tyres.

A new tyre look can be restored using a good quality tyre and bumper shine.

Alloy wheels

To preserve the original appearance of alloy wheels, keep them clean and free from build up of road dirt. A good quality wheel cleaner can be used for cleaning alloy wheels. Do not use abrasive cleaners on alloy wheels.

Glass cleaning – general

Take care not to scratch the glass. If it is cleaned at the same time as the rest of the vehicle, there is a possibility that particles of grit will cause fine scratches. Flush off any mud on the glass when washing the body, but leave the final cleaning and polishing until afterwards. Use a good quality glass cleaner, such as Holden Glass Cleaner, and wash each section of glass in turn, making sure that the water, its container and the sponge are quite clean and free from grit. Clean, old linen cloth is better than new material for polishing glass.

EXTERIOR CLEANING cont.

Windscreen

It is important that the windscreen be kept clean so that the wiper blades operate as effectively as possible. Old wiper blades can cause windscreen scratching and so should be regularly inspected and replaced.

Never use abrasive cleaners to clean glass as they can cause scratches, impairing night vision. After the windscreen has been cleaned with a wet sponge, wipe it over with a soft, lint free cloth or chamois.

It is recommended that a good quality windscreen washer additive, such as Holden Optikleen, be added to the windscreen washer reservoir.

Wiper blades

Oil and road scum thrown up on the windscreen causes smearing when the wipers are switched on and is transferred onto the wiper blades. Whilst many methodically clean the windscreen glass, they often forget to clean the wiper blades. Consequently, smearing of the glass reappears immediately the wiper blades are used. Clean the blades by lifting them off the windscreen and cleaning with a good quality glass cleaner, such as Holden Optikleen, and a clean cloth.

WARNING:

Do not operate the wiper blades by hand as this damages the wiper drive mechanism.

If the wiper blades are used to clean dust and dirt from the windscreen in dry conditions, always use the washer system first to wet the windscreen. Ensure that the windscreen washer reservoir is full.

Should the wiper blades freeze to the windscreen, you must lift them off and free them by hand before switching on the wipers.

CLEANING PRODUCTS

PART NUMBER	SIZE	DESCRIPTION	USAGE
92145132	237 ml	Quick and Easy Speed Finish	Seals in a deep, lustrous glazed finish. Long life protection from oxidation, salt and weather damage.
92145418	437 ml	Quick and Easy Speed Finish	Seals in a deep, lustrous glazed finish. Long life protection from oxidation, salt and weather damage.
92145130	237 ml	All Purpose Cleaner	Cleans and deodorises velour, most vinyl upholstery, hood linings, mats and carpets, etc.
92145416	437 ml	All Purpose Cleaner	Cleans and deodorises velour, most vinyl upholstery, hood linings, mats and carpets, etc.
92145133	237 ml	Glass Cleaner	Cleans all glass surfaces.
92145419	437 ml	Glass Cleaner	Cleans all glass surfaces.
92140005	500 ml	Optikleen	Windscreen washer solvent.
92140004	5 ml	Optikleen Sachet	Windscreen washer solvent; 1 sachett per washer bottle refill.
92145129	237 ml	Hi Suds Car Wash	Cleans vehicle exterior.
92145415	437 ml	Hi Suds Car Wash	Cleans vehicle exterior.
92145131	237 ml	Vinyl and Trim Dressing	Seals and protects vinyl upholstery and plastic trim.
92145417	437 ml	Vinyl and Trim Dressing	Seals and protects vinyl upholstery and plastic trim.
92145140	120 ml	Leather Revitaliser	Revitalises the leather upholstery.
92145141	120 ml	Leather Cleaner	Cleans the leather upholstery.
92145142	120 ml	Leather Protector	Protects the leather upholstery.
92145143	1 Kit	Leather Care Kit	Contains leather revitaliser, cleaner and protector.
92145135		Chamois	Cloth for wiping off excess water from the vehicle's exterior after washing and rinsing.
92145134		Handle Grip Sponge	Sponge for washing the vehicle.
92145136		Microfibre Glass Cleaning Cloth	Cloth for cleaning all glass surfaces.
92145137		Microfibre General Purpose Cleaning / Polishing Cloth	Cloth for general purpose cleaning / polishing.

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